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Price Agreements on Waste Paper in Effect

Leon Henderson, Administrator of Office of Price Administration and Civilian Supply, Issues Notice Stabilizing Prices Prevailing On June 16 On Three Major Lower Grades of Paper Stock.

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., August 6, 1941—Voluntary price agreements on three low grades of waste paper, worked out by trade representatives and the Office of Price Administration and Civilian Supply, have been extended for a period of 60 days beginning August 1.

As to higher grades of wastepaper, Leon Henderson, OPACS administrator, asked dealers and consumers in notices issued yesterday not to exceed prices prevailing during the week ending July 26, pending an investigation of the price structure for higher grades. No agreement was reached on prices for the higher grades of waste paper at a meeting on July 25 with trade representatives, since it was not possible to work out grades and differentials at that time.

Extension of the voluntary price agreement on low grades, which was first established on June 18 and reaffirmed at the recent meeting with the trade, was announced in notices sent yesterday to dealers and consumers of wastepaper.

The voluntary agreements, which cover the lower grades of waste paper, are at prices prevailing June 16, 1941. Prices per short ton on these grades at New York and Chicago are as follows:

	New York	Chicago
No. 1 mixed paper	$11.50	$13.00
No. 1 baled news	13.00	15.00
Used corrugated boxes	16.50	16.00

Texts of the two notices issued on July 30, follow:

Notice to Wastepaper Dealers and Consumers

At the conference with representatives of the waste paper industry held at this office on July 25, 1941, no action was taken with respect to the higher grades of waste paper. It is imperative, however, that the prices of these grades be stabilized immediately. Accordingly, until a field investigation can be made and an industry meeting held, you are requested not to exceed the prices at which you sold f.o.b. loaded on cars or trucks, during the week ending July 26, 1941, any grade of wastepaper other than the No. 1 Mixed Paper, No. 1 Baled News, and Used Corrugated Boxes. Prices on the latter three grades were stabilized by a voluntary agreement reached at a previous meeting with representatives of the industry on June 18, 1941 and extended at the meeting of July 25, 1941 until October 1, 1941.

Should we find prior to this industry meeting that the prices for the week ending July 26, 1941 are being exceeded, we shall issue a price schedule defining grades and fixing maximum price in accordance with our determinations.—LEON HENDERSON, Administrator.

Agreement Stabilizing Paper Stock Prices

At a meeting of a group of waste paper dealers held in Washington, D. C., on July 25, 1941, with representatives of this Office, it was decided to continue in effect for a period of 60 days from August 1, 1941 prices on certain grades of paper stock which were the basis of an earlier agreement.

The first agreement was entered into on June 18, 1941, by individual members of the trade and the Office of Price Administration and Civilian Supply. At that time it was agreed that the ceiling prices of three grades of waste paper would be those prices which prevailed on June 16, 1941, and that these prices would not be exceeded for a period ending August 1, 1941. For example, the ceiling prices at New York and Chicago would be as follows:

At New York:	No. 1 mixed paper	$11.00 per short ton
	No. 1 baled news	$13.00
	Used corrugated boxes	$16.50
At Chicago:	No. 1 mixed paper	$13.00 per short ton
	No. 1 baled news	$15.00
	Used corrugated boxes	$16.00

It is necessary not to exceed these prices in order to stabilize a situation which can get out of control because of the increased demand for paper stock. Unless the waste paper market is stabilized, conditions will become chaotic and producers and consumers alike will suffer.

Your cooperation as a consumer of waste paper is sought in maintaining the ceilings covered by the agreement. To this end I request that you report to the Office of Price Administration and Civilian Supply any offer in excess of these prices. It is not our desire to embarrass you but your help in this matter is essential.—LEON HENDERSON, Administrator.

Thilmany Announces Improvement Program

Building and Machinery Purchase Plan of Thilmany Pulp & Paper Co. Involving $500,000 Includes New Building and Rebuilding of No. 8 Fourdrinier — New Paper Machine Will Trim 120 Inches.

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., August 4, 1941—Thilmany Pulp and Paper Company, Kaukauna, Wis., is spending $500,000 on a building and machinery purchase program, company officials announced today. Contracts have been signed for the erection of a building to house a new paper machine and the rebuilding of the present No. 8 Fourdrinier paper machine, located in the No. 2 mill.

Building Contract Awarded

The building contract has been awarded to the Permanent Construction Company of Milwaukee, Wis., according to the announcement by Charles R. Seaborne, vice president in charge of manufacture. It specifies heavy mill type construction of a 70 by 300 foot building, which will be both one and two stories high. The new structure will be located adjacent to the bag factory at the lower mill.

Specifications of New Paper Machine

Specifications for the new paper machine call for Yankee type to trim 120 inches, equipped with a 12-foot dryer. The No. 8 machine will be rebuilt primarily to provide for needed repairs and replacements, but also to make possible a wider range of special papers. The Beloit Iron Works, Beloit, Wis., has the contracts for the machine and auxiliary equipment.

To Be Ready Before Cold Weather

It is expected that the building will be ready for occupancy before cold weather and preliminary installation in connection with the new mill will be started shortly thereafter. Shutdown of the No. 8 machine will be reduced to a minimum under the program, which is expected to be completed in its entirety early next year.

No Increases in Production Contemplated

Mr. Seaborne said that these additions do not contemplate any increased production but are made in the interest of economy of operation and better working conditions. The new Yankee machine is designed to produce a tonnage equal to that now made on the No. 3 and 4 machines combined—two small machines which eventually will be discontinued.

The tonnage to come from the rebuilt No. 8 machine will not exceed that produced at present, although the machine will be capable of higher speeds. The project has been under consideration for several months and the final details will be concluded this week.

Building for Asphalt Machine Progresses

Thilmany recently began construction of a building near the upper mill to house an asphalt paper machine. The steel has been erected and floors and foundations have been completed. This building, ready for bricklaying, will be completed by December 1.

Buy Paper Under Walsh-Healey Act

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., August 6, 1941—During the week ended July 19 the government purchased $1,766,683 worth of paper under the Walsh-Healey act with the following orders:

$16,544 worth of toilet paper for Veteran Procurement, D. C., from Hanover Paper Corporation; $18,481 worth of book paper for Government Printing Office from Marquette Paper Company; $17,331 worth of writing paper for Government Printing Office from Paper Corporation of U. S.; $13,103 of stationary supplies for War, QMC, N. J., from Boston Paper Board Company; $69,938 worth of fiber containers for War, Ordnance, N. J., from Carpenter Container Corporation; $16,168 worth of postal-card carton boxes for Government Printing Office from Carpenter Container Corporation; $60,445 worth of check paper for Bureau of Engraving and Printing from Paper Corporation of U. S.; $10,626 worth of cover paper for War, Medical, Brooklyn, from Walker Goulard Plehn Company; $14,409 worth of bristol board for Government Printing Office from R. P. Andrews Paper Company.

Also, $112,007 worth of masking tape for War Air Corps from Minnesota Mining and Manufacturing Company; $45,602 worth of manifold paper for War, QMC, Texas, from Paper Corporation of U. S.; $12,715 worth of paper towels for Panama Canal from Bogart Paper Company; $39,170 worth of masking tape for War, Air Corps, from Industrial Tape Corporation; $32,218 worth of toilet tissue for War, QMC, N. J., from Ashland Paper Mills; $24,381 worth of toilet tissue for War, QMC, N. J., from Hanover Paper Corporation; $86,748 worth of toilet tissue for War, QMC, N. J., from Resolute Paper Products Corporation.

North Carolina May Grow Paper Flax

[FROM OUR REGULAR CORRESPONDENT]

BREVARD, N. C., August 5, 1941 — The Ecusta Paper Corporation near here may promote the growing of flax on Western North Carolina farmlands, according to Harry H. Strauss, president of the corporation. Speaking at a picnic of the Farmers' Federation held here, Mr. Strauss said that the growing of flax on the local farmlands as a raw material for the Ecusta plant is more than a possibility.

Mr. Strauss said he was not yet ready to say when flax would become a crop for Western Carolina and other farmers in this area, but that his corporation is working diligently toward that end.

Mr. Strauss said the corporation is "just about ready to put into operation a special department in charge of competent men with prior experience who will work out in detail flax fiber which can be grown in this section."

Midwest Reports Very Strong Paper Market

Chicago Distributors Expressing Growing Concern That Voluntary Price Regulation May Not Prove Sufficient To Control Paper Prices — New Sources of Waste Paper Supplies Being Sought.

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., August 4, 1941—A general tightening up in all lines and growing concern that efforts of self-policing in the paper industry might still be insufficient, were reported in Chicago's paper market this week. Price ceilings were the topic of discussion even as the paper industry was doing a most commendable job of halting any undue price increases. Local commentators feel that prices here are not out of line when compared with production costs and the raw material situation and express the hope that the regional meetings of the National Paper Trade Association, one of them scheduled to be held in Chicago next week, would suffice to give the industry the right to do its own regulating without resorting to governmental control.

Marketwise, all grades and types of paper were quoted as "very firm" to "strong" with the waste paper industry beginning to give the public an idea of the tightness within the general industry. Krafts were at top demand, say reports, while groundwoods and newsprints were considerably ahead of the production schedules of the mills. Sulphites remained very strong. Books and covers retained the top spot in the present price range and local paper men believed the market was now in a position where expected Fall demand would very seriously test the productive capacity of the various markets.

Hunt New Waste Paper Sources

Continued and growing interest in waste paper as a factor in the national defense program becomes more and more in evidence in the Chicago area. This week the city of Chicago was asked to remove the ban on waste paper collectors in certain restricted residential sections in Chicago. The request came to Mayor Edward J. Kelly from Leon Henderson, administrator of Price Control and Civilian Supply and was a direct expression that Chicago might put into productive circulation between 4000 and 5000 tons of waste paper monthly which is not now collected because of restrictions. Mr. Henderson asked the Mayor to "do everything possible" to remove the restrictions in order to help avert a paper shortage. He said supplies of wastepaper now available are not sufficient to permit paper board mills to meet the nation's rapidly expanding civilian and rearmament needs. "No Peddlers Allowed" signs in many city residential areas prohibit junk and paper dealers as well as peddlers, from making their rounds in certain districts.

During the week the Thomas Paper Stock Company turned to the first page of the Chicago Journal of Commerce to advertise for waste paper. "Waste Paper Needed" said the headline and added "Defense Program Brings Shortage of Paper Stock." Copy stated that "now it is both patriotic and profitable to dispose of as many as possible of your old records and waste paper of all kinds. You can convert all your old files and other paper stocks into cash and at the same time help America's defense program. Provide the necessary material by cleaning out your vaults, filing cases and stock room at once." The Thomas organization operates in Chicago, New York, Philadelphia and Kalamazoo, Michigan.

Record Crowd at Salesmen's Outing

Fifty-seven paper sales executives and their guests —a record number according to Ed Rolaine, chairman of the golf committee, attended the third of the summer golf outings sponsored by the western division of the Salesmen's Association of the Paper Industry and held at Bob-O-Link Golf Club on July 25.

The "weather was perfect" reports Mr. Rolaine who also sent along the prize winners list as follows: low gross, C. H. Reeves, Allied Paper Mills; low net (17 handicap and under) Frank Haggerty, Haggerty Paper Company; low net (18 and over) Ed Bishop, Blunden-Lyon Paper Company; second low net (18 and over) R. O. Warner, Minnesota and Ontario Paper Company; third low net (18 and over) H. Van Patten, Bradner Smith & Company; low net, first nine, H. D. Fralick, International Paper Company; low net, second nine, Hamilton Vose, Berkshire Papers, Inc.; low putts, first nine, L. W. Miller, Fraser Industries, Inc.; low putts, second nine, A. G. Shennan, International Tag and Salesbook Company; high gross foursome, L. Ransom, E. Melia and C. Sadler, Union Bag and Paper Corporation, and O. Stoller, Randolph Paper and Bag Company; low net foursome, R. C. Johnson, Ward Paper Company; A. J. Austin, Moser Paper Company; H. Van Patten, Bradner Smith & Company and W. J. Tilden, Mead Sales Company; low putt foursome, E. P. McNeill, McNeill Teaming Company; M. T. Fortney, Butler Paper Company and C. F. Gillis and L. W. Miller of Fraser Industries. The blind bogey prize was won by R. C. Johnson. The next outing will be held at the La-Grange Country Club the final week of August.

Oppose Freight Forwarder Bill

C. J. Whipple, transportation vice president of the Chicago Association of Commerce, this week declared the freight forwarder has no investment in carrier equipment and is actually but a shipper agent. He appeared in opposition to the proposal of freight forwarders that they be regulated by Interstate Commerce as now under consideration in S.B.210. The proposed bill is being opposed not only by the Chicago Association of Commerce, which has many members in the paper industry locally, but also by the Illinois Territory Industrial Traffic League. Mr. Whipple said that "authority to make joint rates brings rise to our contention that such joint rates would not be available to voluntary associations or pool car distributors who handle their limited or restricted commodities in exactly the same way and under similar circumstances and conditions as do general freight forwarders. The Chicago Association of Commerce recommends that the forwarders be granted proportional rates lower than local rates when justified by differences in transportation conditions.

Wisconsin Paper Mill Payrolls At New Peak

Industrial Commission Reports 600 Workers Added To Paper, Pulp and Converting Plants In June — Payrolls In Industry At New High Point — Tolls Assessed Against Paper Mills — Other News.

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., August 4, 1941—Six hundred workers were added to payrolls of Wisconsin paper and pulp mills and converting plants during the month of June to keep pace with the increasing production demands, according to reports of the Industrial Commission of Wisconsin. Payrolls likewise have hit a new peak of $703,000 per month.

Payrolls during May listed 23,000 workers, and during June, 23,600, an increase of 2.4%. In comparison with June, 1940, there are 1,700 more employees, a gain of 7.5% over a year ago.

Weekly Payrolls Up 21.9 Per Cent

The trend of weekly payrolls is from a total of $577,000 in June 1940 to $664,000 in May of this year, and $703,000 in June, an increase of 21.9 per cent over a year ago, and 5.9 per cent over the previous month. The hourly rate now averages 69.3 cents per worker for a work week of 43.1 hours, with the average weekly wage at $29.83.

A slump a month ago in the Milwaukee metropolitan area, largely devoted to carton manufacture and converting, has been overcome. There were 2,191 workers in June in 19 establishments reporting, an increase of 12.2 per cent over the month of May. Payrolls are up 18.9 per cent from May, with a total of $60,117. Hourly earnings average 69.5 cents for a work week of 39.5 hours, the workers averaging $27.44 per week.

Among the wage increases granted recently is that of the Thilmany Pulp and Paper Company, Kaukauna, Wis., affecting 960 out of a total of 1,080 employees, according to L. C. Smith, personnel director. All male hourly paid employees received an increase of five cents per hour, giving them a base rate of 60 cents per hour. Women employees were boosted four cents per hour, with a new base rate of 51 cents. Increases were effective as of June 1. Hereafter all employees of two years or more of continuous service will receive a week's vacation with pay.

Tolls Assessed Against Paper Mills

Tolls for water power reservoir service of approximately $93,000 have been assessed by the Wisconsin Valley Improvement Company against paper mills and hydro-electirc plants along the Wisconsin River for the first six months of 1941, according to schedules filed with the Wisconsin Public Service Commission. A state permit authorizes the company to collect a 7 per cent return on its investment.

The tolls are as follows:

Wisconsin Public Service Corp.; Eagle River dam, $174; Hat Rapids dam, $1,339; Jersey Dam, $422; Tomahawk dam, $2,057; Grandfather dam, $12,984; Alexander dam, $3,132; Merrill dam, $248; Wausau dam, $3,798.

Consolidated Water Power and Paper Company; Stevens Point dam, $4,787; Biron dam, $6,814; Wisconsin Rapids dam, $9,015.

Nekoosa-Edwards Paper Company; Centralia dam, $4,098; Port Edwards dam, $4,562; Nekoosa dam, $5,264.

Wisconsin Power and Light Company; Wisconsin Dells dam, $6,216; Prairie Du Sac dam, $10,455.

Tomahawk Pulp Company; Kings dam, $1,260.

Rhinelander Paper Company; Rhinelander dam, $1,822.

Tomahawk Kraft Paper Company; Grandmother dam, $2,642.

Wausau Paper Mills Company, Brokaw dam, $533.

Marathon Paper Mills Company, Rothschild dam, $2,748.

Mosinee Paper Mills Company; Mosinee dam, $2,391.

Wisconsin River Paper and Pulp Company; Lower Stevens Point dam, $5,954.

Whiting Plover Paper Company; Plover dam, $145.

Crowds Attend Paper Mill Outings

Large crowds have been enjoying the summer mill picnics. The attendance exceeded 2,000 at the Kimberly-Clark Corporation's outing Sunday, July 27, at Lakeview Park, Neenah, Wis. Carnival attractions were provided for the children. Contests were conducted by Clark Hinkle, football star of the Green Bay Packers' professional team. He was assisted by Austin Trull of Waupaca, Wis., the "safety clown." A baseball game was also held between the KCA and Lakeview Mill teams in which the former won by a score of 18 to 17. The Lakeview Mill band played a concert in the afternoon under the direction of Lester Mais. Numerous prizes were distributed.

Thilmany Holds Picnic

The Thilmany Pulp and Paper Company, Kaukauna, Wis., shut down its mill so all of the employees could attend the annual picnic Sunday, July 27, at La Follette Park. The estimated attendance of workers and their families was 2,500. Baseball games were played between teams of various departments in the morning, and various prize-winning contests and an amateur show were held in the afternoon. The outing was made the occasion of awarding a prize of $100 to the "Red" team, which won a safety contest in progress in the mill for the last six months. The money was divided by drawing of 20 names of team members, each to receive $5. Harold Newton, safety director, paid off a bet on the outcome of the contest by tendering a wheelbarrow ride to L. C. Smith, safety director.

Nekoosa-Edwards Holds Outing

AFL unions of the Nekoosa-Edwards Paper Company, Port Edwards, Wis., held their annual picnic Sunday, July 27, at Nepco Lake, with a large attendance. Local No. 94 of the International Pulp, Sulphite and Paper Mill Workers, Wisconsin Rapids, Wis., conducted a picnic the same day at Robinson Park.

Canadian Paper Industry Having Good Year

Although Newsprint Prices Have Remained Stabilized Shipments To U. S. Publishers Increased In Current Half Year—Overseas Trade Declines — Report Newfoundland Competition Increasing.

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., Aug. 4, 1941—In spite of the fact that newsprint prices have remained unchanged, Canada enters the second half of the year with bright prospects that the pulp and paper industry will produce a greater dollar revenue in 1941 than it did in 1940 and the export department bring in a greater number of United States dollars than it did last year. This showing does not appear, on the surface, to be better than many other Canadian industries, except that prices in most other industries have risen.

Since the beginning of this year, the Canadian pulp and paper industry has been called upon to meet all or a large share of the pulp and paper requirements in the democratic countries of the world.

Trading relations with Scandinavian countries having been disrupted by the war, many countries which have relied on that source of supply for pulp and paper have been forced to turn to Canada for their requirements, with the result that during the past year exports of newsprint, insulating board, pulp, kraft paper, fine papers, etc., have greatly increased, especially to countries like British South Africa, East Indies, Argentina, Mexico, Brazil,, Colombia, Chile, etc. In many cases Canada is the only source of supply left available to these countries.

Shipping difficulties and the maintenance of regular supplies for this greater area has created innumerable difficulties for pulp and paper manufacturers in this country, but it is to the credit of the industry that supplies have been made available for all new customers as well as old ones.

During the first half of the year the newsprint division produced 1,621,134 tons of paper, or about 20,000 tons less than in the like period a year ago. Shipments followed in about the same ratio as production, totalling 1,607,607 tons, as against 1,630,920 tons in the first half of 1940.

Shipments to U. S. Publishers Higher

From the standpoint of dollar value, however, and mainly U. S. dollars, the past half year was more notable. While over-all shipments dropped around 23,000 tons, there was a decline of 80,000 tons in overseas trade. Most of this business is paid in sterling, of which Canada has all she needs at the moment. On the other hand, deliveries to American publishers and payable in U. S. funds, increased, amounting to 1,290,339 tons, as against 1,239,755 tons in the first six months of 1940. In Canadian dollar revenue the newsprint division produced more revenue in the last half year than it did in the last half of 1940.

At the moment the prospects are that the newsprint division will produce about 3.3 millions of tons this year, or about 120,000 tons less than in 1940. This indicates a somewhat smaller ratio of operations for the mills during the balance of the year.

Lower Overseas Exports Likely

Exports to overseas countries are expected to show further restriction, particularly to Empire markets. Then, too, difficulties of exchange and shipping are expected to have a bearing on deliveries to markets other than the United States. American demand between now and the close of the year should hold up, possibly show a moderate increase over the like period of last year.

Increasing competition from Newfoundland mills will be a factor in the U. S. market, but Canadian operators can be relied upon to hold their own. On the balance of the available markets, prospects for 1941 are that while production may drop off 120,000 tons, the decline will be solely in the overseas markets which are not of so much concern in respect to American dollar revenue.

Deliveries in the United States should show a small increase, probably around 3%, so that, taking into consideration the premium on these shipments, Canadian dollar revenue to the newsprint mills this year should be slightly greater than it was in 1940.

Other branches of the pulp and paper industry are even more active than the newsprint division. Particularly is this the case with pulp. Elimination of the Scandinavian mills from the American market has opened up a rich and profitable market for Canadian pulp producers. A similar state of affairs has arisen in the British market, so that Canada has become the principal source of imports of pulp for both the United States and the United Kingdom. Producers of chemical pulp have been exceptionally busy taking care of the demand. Every ton that can be produced has a buyer.

The Canadian industry has taken unto itself the responsibility of meeting the requirements of the British market. This has involved an elaborate programme of co-operation between the English buyers and Canadian pulp manufacturers. To date it has been most highly successful and all British market requirements have been met. Rationing, of course, has kept the requirements on a regular and steady basis.

Pulp Shipments to U. S. Heavy

Especially heavy shipments of pulp have been made to the United States during recent months and it is expected these will continue at a high level for the duration of the war. All grades of chemical pulp are in demand. During the past half year, exports to the United States have been running between 70,000 and 80,000 tons a month, with about 80% sulphite and sulphate grades.

The pulp division in Canada last year produced 4,887,000 tons, an increase of 20.4% over 1939. This was the second largest output in the history of the industry. This year, even this figure may be exceeded, for another record.

Last year Canada supplied the United States with 828,306 tons of pulp and this year will likely ship closer to a million tons.

Record shipments have been made of insulating board. There has been an extraordinarily heavy demand for this product not only in the domestic

market, but in Great Britain. Overseas it is used extensively in making temporary repairs following air raids and in other ways in connection with the defense building programme. There is no indication of any material falling off in demand for board during the balance of the year. Requirements both in Britain and in Canada continue heavy.

Operations also continue at a high level in the kraft and fine paper field. Exports of kraft and fine papers, to a lesser extent, have been greater substantially under war-time conditions than they were previously. Domestic requirements, also, have jumped appreciably, with the result that paper makers are doing well, notwithstanding hostilities.

Indications are that production in the pulp and paper industry this year will have an aggregate value of better than $300 millions. Of this sum, about $250 millions will represent exports, while the number of United States dollars accruing to Canada's war chest from this trade will be in the neighborhood of $190 millions to $200 millions. This exceeds the returns from any other Canadian industry.

Sacandaga Is At Lowest Level

[FROM OUR REGULAR CORRESPONDENT]

GLENS FALLS, N. Y., August 4, 1941.—The huge Sacandaga Reservoir is at its lowest level in its history because the usual spring rains did not appear. The paper companies timed their log drives wrong and timber now lines the Hudson River from this city to the North River because of low water conditions. At the Corinth dam there is a jam of logs which may be relieved in the near future. The entire Adirondack area is suffering the worst drouth in its history and above Luzerne the Hudson is a shallow trickle. From Luzerne south to Green Island are fifteen water-thirsty power plants and not one would be operating on more than a very limited scale except for water from the huge Sacandaga Reservoir. As it is all are running and helping to supply the enormous hydro-electric energy necessary to keep the large paper mills and other industries in operation. Paper mills in some instances have been forced to curtail operations because of low water conditions. It is estimated that about 2,000 persons find employment in the paper mills at Glens Falls, Corinth, Fort Edward and Mechanicville and all are largely dependent upon river generated power from the huge reservoir. Fearing increased drouth conditions, the Hudson River Regulating Board is restricting withdrawal from the reservoir at the present rate to eleven hours a day. Paper mills and other industries are now receiving about 720 million gallons daily from the reservoir which it is claimed can be continued until some time in February.

Ball Park Is Named for Louis Bloch

[FROM OUR REGULAR CORRESPONDENT]

CAMAS, Wash., August 2, 1941—While a squadron of army planes zoomed overhead, Camas recently dedicated Louis Bloch ball park and Crown park, gifts to the city of Crown Willamette Paper Company. Six hundred persons listened to Mr. Bloch, chairman of the board of the Crown Zellerbach Corporation, express his appreciation for the honor conferred upon him, and to Franklin T. Griffith, chairman of the board of the Portland General Electric Company, who made the dedication address.

Bids for Government Paper

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., August 6, 1941—Government Printing Office has received the following bids for 780 pounds of 26 x 40 buff antique cover paper: R. P. Andrews Paper Company, 14 cents; and Barton, Duer & Koch Paper Company, 18.5 cents.

For 40,000 pounds of 25% rag, white bond paper in 34" rolls: R. P. Andrews Paper Company, 12.33 cents; Baxter Paper Company, 12.6 cents; and Mudge Paper Company, 12.76 cents.

For 80,000 pounds of white sulphite bond paper in 32" rolls: Butler Company, 6.75 cents; and Marquette Paper Company, 7.37 cents.

For 80,000 pounds of white and 40,000 pounds of yellow sulphite manifold paper in 24" rolls: Paper Corporation of U. S., 8.25 cents (white) and 9 cents (yellow); Marquette Paper Company, 9.47 cents (white) and 9.97 cents (yellow).

For 278,500 pounds of 39⅜ x 56 white antique paper: Paper Corporation of U. S., 6.43 cents; and Marquette Paper Company, 6.97 cents.

For 37,500 pounds of 38 x 48 lithograph finish map paper: Old Dominion Paper Company, 10.248 cents; and Stanford Paper Company, 10.87 cents.

For 16,200 pounds of 50% rag, 14 x 20 white lithograph map paper: Stanford Paper Company, 13.96 cents; R. P. Andrews Paper Company, 16.305 cents; Mudge Paper Company, 14.96 cents; Graham Paper Company, 13.4 cents; and Walker, Goulard Plehn Company, 15.4 cents.

For 4,600 pounds of 50% rag, 18 x 20 white lithograph finish map paper: Stanford Paper Company, 13.96 cents; R. P. Andrews Paper Company, 16.305 cents; Mudge Paper Company, 14.68 cents; Graham Paper Company, 13.4 cents; and Walker Goulard Plehn Company, 15.12 cents less 3%.

For 100,000 pounds of colored sulphite writing paper: Mudge Paper Company, 8.9 cents; and Marquette Paper Company, 7.67 cents.

For 5,000 pounds of 19 x 24 white blotting paper: Barton, Duer & Koch Paper Company, 12.45 cents; Old Dominion Paper Company, 12.4 cents; Mudge Paper Company, 12.44 cents; Whitaker Paper Company, 11.93 cents; and Mathers-Lamm Paper Company, 12.48 cents.

Honored for 50 Years Service

Half a century of continuous service to one firm was celebrated July 18 by A. E. Harbidge, 68 year old bay area resident and machine specialist at the Emeryville, Cal., plant of the Paraffine Companies, Inc.

At a simple ceremony in the offices of J. T. Coleman, plant superintendent, R. S. Shainwald, chairman of the board, presented Harbidge with a gold watch.

W. H. Lowe, company president, gave the veteran worker a three months' vacation check.

If Harbidge's service record were combined with those of Board Chairman Shainwald, President Lowe, Superintendent Coleman, Research Director Dozier Finley, Watchman John Peters, Box Shop Foreman George Manning, and Assistant Superintendent Ford Tussing—all present at the ceremony—the total record would date back 294 years, or to the beginning of the Manchu dynasty in China. Finley, Manning and Peters were asked to attend the fete because they hold next highest honors in point of service years.

FOR NEW REELS OR REPAIRS TO OLD ONES . . . BLACK-CLAWSON IS YOUR SOURCE

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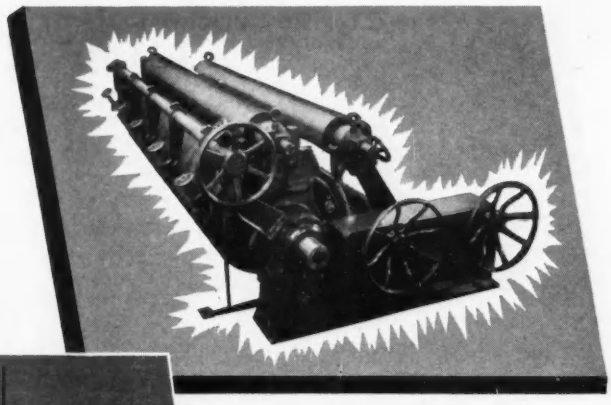
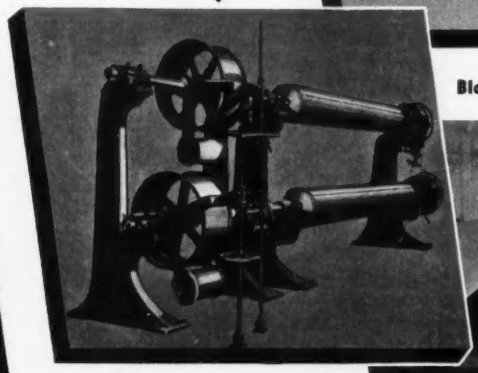
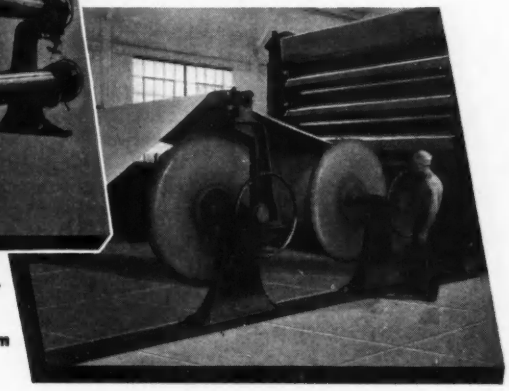


Black-Clawson Uniform Speed Reel.





⬆ Black-Clawson Two Spool Upright Reel.

➡ Black-Clawson Single Drum Horizontal Reel.

● ***Uniform Speed Reels***

For light weight papers and high speeds. Proven features of simple design result in ease of operation. Uses famous Black-Clawson seamless dryers, equipped with steel journals. Inherently balanced. Low frames insure rigidity and stability. Rolls up to 62" diameter.

● ***Two Spool Upright Reels***

For board machines and heavy weight papers. Box type construction of frames insures rigidity and neat appearance. Location of friction handwheels and alignment adjustments are positioned for convenience of operators. Will handle rolls up to 62" diameter.

● ***Single Drum Horizontal Reels***

For extra large jumbo rolls, .009 chip for corrugating or whatever large rolls are to be made at high speed. Permits closer control of reel and insures safety for the operator. Rolls to 84" dia.

The Black-Clawson Co., Hamilton, Ohio. Shartle Division, Middletown, Ohio. Dilts Division, Fulton N. Y.

BLACK CLAWSON

REELS REELS

To Vote September 25 On Formation Of New International Paper Co.

R. J. Cullen, president of the International Paper and Power Company, announced on Wednesday that a special meeting of shareholders has been called for September 25, 1941 to vote on a program for the elimination of International Paper and Power Company, the present holding company, and the distribution to each shareholder and warrant holder of corresponding shares and warrants of a new New York corporation which will take the name the "International Paper Company". The present International Paper Company would be consolidated into the new corporation.

Effect of Program

Now that the hydro-electric power investments of the International Paper and Power Company and the International Paper Company have, with minor exceptions, been disposed of, there is no longer any necessity to continue the existence of the International Paper and Power Company. On completion of the program, shareholders of the International Paper and Power Company, which is solely a holding company, will own directly stock of the new International Paper Company. The new company will control all of the assets now controlled by International Paper and Power Company, owning directly the major operating properties in the United States.

This program will achieve two results (1) Simplification of corporate structure and (2) Economy in administration expense and taxes. No change of substance in the present interests of any shareholders or warrant holders is involved, although certain technical changes are inherent in the change from a Massachusetts voluntary association to a New York corporation.

The record date of the shareholders meeting will be August 18, 1941. At the meeting the shareholders will also vote with respect to an amendment of one section of the Declaration of Trust which would permit greater expedition in carrying out the program. The amendment is not, however, essential to the program, which could be carried through even though the amendment were not adopted. Action by the warrant holders will also be required to carry through this amendment, and a meeting of warrant holders has been called for September 24, 1941. The record date for the warrant holders meeting is August 16, 1941.

Termination of International Paper and Power Co.

The program being submitted to the shareholders includes two separate steps. The first step involves (a) the transfer of the assets of the International Paper and Power Company to the new New York corporation (which will eventually take the name the "International Paper Company") in exchange for the latter's preferred and common stock and common stock purchase warrants; (b) the termination of International Paper and Power Company and (c) the distribution to its shareholders and warrant holders of shares and warrants of the new corporation.

Shareholders of the International Paper and Power Company will receive the same number of shares of the same class of stock in the new corporation that they now hold in the International Paper and Power Company. The new corporation's 5% preferred stock will carry the same accumulation of dividends as the present 5% preferred stock of the International Paper and Power Company. Warrant holders will receive warrants in the new corporation that will represent the right to buy the same number of shares in the new corporation and at the same price.

Consolidation of International Paper Co.

The second step involves the consolidation of the present the International Paper Company into the new corporation. The name of the consolidated corporation (which will be the new corporation) will be the International Paper Company. It will, by the consolidation, assume the liabilities and acquire the assets of the present International Paper Company, including direct ownership of all the major operating properties now controlled by the International Paper and Power Company in the United States.

The amount of the International Paper Company stocks remaining in the hands of the public is very small—only 6,796 shares of 7% preferred, 38 shares of 6% preferred and 266 shares of common at June 30, 1941. Shortly after completion of the program the publicly held 7% preferred shares would be called for redemption at $115 a share after receiving all back dividends. The publicly held 6% preferred and common stock would be converted into the stock of the new corporation, not more than 43 shares of 5% preferred stock and 608 shares of common stock of the new corporation being required for this purpose.

All of the International Paper Company stock now held by International Paper and Power Company would be cancelled. These holdings now amount to well over 99% of the outstanding shares of each class of the International Paper Company stock.

Capitalization of the New Corp.

Upon consummation of the program, including redemption of the publicly held the International Paper Company 7% preferred stock, the capitalization of the new the International Paper Company will be as follows:

	Authorized	Held by Public
Cumulative Convertible 5% Preferred Stock, par value $100 (shares)	1,000,000	925,978
Common Stock, par value $15 (shares)	6,000,000	1,823,879
Common Stock Purchase Warrants (units)	1,348,218	1,347,748

Of the common stock authorized in excess of the amount required for issue as part of the program, 2,324,512 shares will be reserved for conversion of the 5% preferred stock, 1,347,748 shares will be reserved for purchase by holders of common stock purchase warrants for that number of shares shown in the above table and 40,000 shares will be reserved for sale to an officer at $15 per share. Common stock purchase warrants expire September 26, 1942.

Income Tax Status

The Company has obtained a ruling of the Commissioner of Internal Revenue that:

(1) The transfer of the assets of the company to the new New York corporation will result in no taxable gain or deductible loss to either company.

(2) The exchange of stocks and warrants of the company for stocks and warrants of the new corporation will give rise to no taxable gains or deductible losses.

(3) The consolidation of the International Paper Company into the new corporation under the laws of the State of New York will result in no taxable gain or deductible loss to either of the constituent corporations.

The ruling recommends the approval of closing agreements by the Commissioner, agreeing that the transactions outlined above will not result in any taxable gain or deductible loss to the company, the International Paper Company or the new corporation.

It is stated that the closing agreements when issued would be binding unless Congress should change the applicable tax statutes and make the changes retroactive so as to cover past transactions. The management does not know of any proposal to make any such changes in the existing statutes, but points out that unforeseen developments in the pending tax legislation might make desirable some postponement of putting the program completely into effect. Postponement could be accomplished, if such a course seemed best, either by directors withholding final action or by adjournment of the shareholders' meeting.

Stock Exchange Listing

Application will be made by the new the International Paper Company for listing its 5% preferred and common stocks on the New York Stock Exchange and for listing its common stock purchase warrants on the New York Curb Exchange. It is expected that such listing can be completed in time so that trading in the securities of the new corporation can begin immediately after the termination of the International Paper and Power Company.

Award Service Emblems

In recognition of continuous service in the employ of the company for ten years and twenty years, Farrel-Birmingham Company, Inc., of Ansonia, Conn., and Buffalo, N. Y., recently awarded service emblems to 577 employees who have completed either of those terms of service.

A handsome sterling silver service pin was awarded to 139 employees who have completed 20 to 25 years of service, while 438 who have been with the company for 10 to 20 pears received a bronze emblem.

At the Buffalo plant the awards were made after a short congratulatory talk by A. G. Kessler, vice-president and general manager, the presentations being made by L. D. Chirgwin, assistant general manager. To those employees who were working on other shifts and so were unable to be present with their group, the pins were personally presented by Mr. Kessler.

Due to the very large number eligible for the awards at the Ansonia plant, personal presentation was impossible by any one officer of the company, so the awards were made by a personal letter to each employee from Mr. N. W. Pickering, President.

Milk in Paper Containers Upheld

CHICAGO, Ill., August 4, 1941—The United States Circuit Court of Appeals, in an opinion handed down this week, directed Federal Judge C. E. Woodward to issue an injunction restraining city officials from interfering with the sale of milk in paper containers. The opinion held that the city ordinance limiting the sale to "standard milk bottles" is void because it contravenes the State public policy in the regulation of the industry. By "standard milk bottle" as defined in the 1935 ordinance, the Appellate Court relief, is meant a glass bottle, to the exclusion of paper containers, although paper "bottles" have since been sanctioned by both the State legislature and the U. S. Public Health Service.

In a recent decision, Judge Woodward, although granting an injunction to the Fieldcrest Dairies, Inc., the plaintiff, against the city authorities, predicated it on a finding that the paper container should be classified as a "standard milk bottle" within the meaning of the city ordinance. Federal Master-in-Chancery Grossman, to whom the case was referred and who had held lengthy hearings, on the other hand, submitted a finding which was overruled by Judge Woodward, that the paper container does not come within the classification of "standard milk bottle." In reversing Judge Woodward's finding, the Circuit Court of Appeals directed that he modify his decres, which is to be based solely on the ground that the ordinance is invalid and repugnant to the paramount state policy. Otherwise, the opinion stated, "it would make the state subservient to the city" adding that, under the terms of the new decree the city will be able to regulate but not prohibit the paper containers —even as it regulates the milk from "the health of the cow to its delivery at the home of the consumer." Through an agreement between the plaintiff corporation and the city the sale of the milk in paper containers has not been interfered with since the issuance of an original injunction, October 23, 1940, pending the outcome of the appeal.

To Consider Chlorine Supply

A meeting of representatives of the primary manufacturers of pulp and paper, converted products, and publishers and printers, will be held with the Office of Production Management, at Washington, D. C., on August 13.

It is the object of this meeting to give serious consideration to the allocation of the residuary supply of chlorine to the pulp and paper industry.

Robert Gair Co. Buys Plant

The Robert Gair Company, Inc., announced August 1 the purchase of the Buffalo division of the American Box Boards Company, Inc.

The plant will be operated as the Fort Niagara Corrugated Box Division, Robert Gair Company, North Tonawanda, N. Y.

Paper Box Orders at High

CHICAGO, August 5, 1941—July orders received by reporting members of the Folding Paper Box Association of America smashed all previous monthly records in the history of the association's tabulations, soaring 65.7 per cent over the total of the 1940 month. Orders booked during the first seven months of 1940 were 30.1 per cent higher.

Consistency Controller Operation

By S. E. Meyers
Chief Engineer, Process Controls, Inc., Le Roy, N. Y.

The many Meyers Consistency Controllers now installed as sheet weight regulators on all sorts of machines and all classes of board or paper, show control characteristics which are to be expected from any automatic governor whether it be for speed, pressure, temperature, consistency or what not. This is the fact that any controller will control slightly over and under its set point, and that the swing is functional with the fidelity of the "feeling" element and the sensitivity and rapidity of the responsive mechanism.

Operating Variables

A well designed consistency controller is fully capable of maintaining density within extremely close limits, but even under the best of operating conditions it is at the mercy of variables other than consistency itself. Its intrinsic, built in accuracy is under the control of its designer; external conditions in the mill are not. The operating variables most likely to affect the accuracy of weight control are (1) variations in density from beater to beater, (2) wide variations in dilution water supply pressure, (3) moisture variations in the finished sheet. Along with these is the complete loss of regulation due to stock coming up too light in the first place. The regulator will not remove water, although the future will see a machine which will regulate by the removal or addition of water.

It might properly be asked as to what good a regulator is if it will not take care of varying consistencies as they approach the point of regulation. The answer to this is that it will do so, but not without floating slightly over and under the set point. That is the reason why such equipment is guaranteed to maintain weight within limits over and under basis, and it must do so within guarantees or weight tolerances.

Cannot Anticipate

Any controller of whatever type cannot act until an impulse in one direction or another causes it to do so. It cannot anticipate. Therefore, if the stock should suddenly come up heavy, the controller will deliver stock very slightly heavier than nominal, and the sheet will likewise heavy up slightly. However, a good regulator will hold the sheet within variation limits regardless of the degree of stock variation one way or the other down to the point of dilution valve closure or up to the wide open position. But do not expect your regulator to hold the weight right "on the nose." It is possible to build a machine which would deliver stock having undetectable variations, but it would be very costly, complicated, and too delicate for the everyday punishment that such equipment has to take.

A good regulator will quickly correct for variations in dilution water supply if they are not too violent. Meyers machines will handle 25 per cent pressure variations up or down without difficulty, but it must be remembered that it is another disturbance that the machine must overcome. Ideally, a gravity water supply or a separate supply pump is necessary, but 95 per cent of controllers are supplied by the plant white water system — good, bad or indifferent. In spite of this they are doing a thoroughly acceptable job.

Moisture Variations

Moisture variations as affecting final sheet weights are helped very much by a good consistency controller whether drying is automatically controlled or not. A uniform sheet will dry more uniformly. Weight variations in themselves commence a vicious circle of circumstances. If the sheet comes heavy from the wet end, it will also contain more moisture —everything else being equal — and will weigh heavier than due to solids weight alone. A light sheet will overdry and will weigh less than accounted for by bone dry weight. A good regulator minimizes these factors and does much to improve the operation of the several drier controllers now in use. In any event, consistency controller guarantees should call for weight limits based on constant moisture or bone dry weight at constant machine speed.

Will Not Cure All Troubles

Very often, through no fault of their own, superintendents and machine tenders expect that the installation of a regulator will cure all their troubles. It would be very nice if this were so, but it isn't. One of the most difficult things to overcome is the tendency of machine tenders to "chase" the stuff gate unnecessarily. If you have a good regulator at the machine stuff box, and after you have found the gate setting for the desired weight, leave the gate strictly alone as long as weight is within specifications. The weights will work slowly up and down, over and under, from set to set. There is a strong tendency to take stock off when the weight is on the upward trend. Soon the trend reverses, and, having taken stock off, it shoots out of bounds on the low side. The attendant then puts stock back on, usually more than enough, and the sheet overshoots on the high side. A good rule to follow is not to touch the gate as long as weight is within bounds, then, if you get two or three sets that are still within limits but consistently light or heavy, make the necessary gate adjustment.

Give the Builder a Chance

There are many things a good stock controller will do for you; there are a few it will not do. It cannot think; it cannot do things for which it wasn't designed; it is not temperamental. It is the result of many years of thought, improvement and experience in doing a job that is tough in any man's language. If your stock regulator isn't doing what it is supposed to do, give the builder a chance to make it right.

Obituary

Charles W. Stribley

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., Aug. 4, 1941—Charles W. Stribley, 73, a director and for 34 years treasurer of the Thilmany Pulp and Paper Company, Kaukauna, Wis., died August 1, in this city. He had retired as treasurer in 1935. He had been in ill health for several months.

Mr. Stribley's home was at Kaukauna, but for many years he had spent his winters at his residence at Fort Myers, Fla., returning to Kaukauna each summer. He came to Appleton in 1889 as a railroad telegrapher, later becoming widely known as a Fox River Valley industrialist.

Born near Fort Wayne, Ind., Oct. 9, 1868, he moved to Madison, Wis., in the spring of 1888. His first job was as night operator in the old Lake Shore station in "the flats" at Appleton. He opened the Chicago and North Western station at Kimberly, Wis., on Aug. 1, 1889.

In 1891 he went to work for the Kimberly-Clark Company, and from 1894 to 1897 he was employed by the pulpwood Supply Company at Appleton. In the latter year he became associated with Oscar Thilmany at Kaukauna. The Thilmany company was incorporated in 1901, with Mr. Stribley elected treasurer and a member of the board of directors.

No immediate relatives survive. Funeral services were conducted at 10 o'clock Monday morning, August 4, at Fargo Funeral Home, Kaukauna, with Waverly Lodge No. 51, Free and Accepted Masons of Appleton and the Appleton Commandery in charge. The sermon was preached by the Rev. L. F. Green of the Brokaw Memorial Methodist church, Kaukauna. The body was taken to Milwaukee for cremation.

Norval H. Busey, Jr.

[FROM OUR REGULAR CORRESPONDENT]

LENOX, Mass., August 4, 1941—Norval H. Busey, Jr., 67, of New York and Lee, Mass., retired paper manufacturer and bank director and well known for his philanthropies in western Massachusetts, was killed instantly July 29 when his car crashed into the rear of a truck.

He had been occupying his summer home at Lee and had been active this season as vice-president of the Berkshire Musical Festival.

He retired in 1932 after serving seven years as president of the Smith Paper Company in Lee. Previously he had been an executive of the British-American Tobacco Company, Ltd., which took over the paper company's management during a reorganization nine years ago.

He was a director of the Lee National Bank; vice-president and member of the executive committee of the Berkshire Symphonic Festival; chairman of the finance committee of the Stockbridge Golf Club; and a member of the New York Athletic Club, Westchester Country Club and the Wykagyl Golf Club, New Rochelle, N. Y.

He had donated funds to establish a tri-town milk control laboratory now maintained by Lenox, Lee and Stockbridge and had aided many needy residents of the three towns.

His winter home was at 270 Park avenue, New York, and he had a summer home in Lee. Surviving are his widow, the former Mabel Dwight, and two sisters, Mrs. Nurridge D. Butler and Mrs. Richard P. Buchanan, both of Hinsdale, Ill. Services were held July 31 at Lee with burial at White Plains, N. Y.

Indianapolis Demand Active

[FROM OUR REGULAR CORRESPONDENT]

INDIANAPOLIS, Ind., August 4, 1941—Thus far nothing has occurred that would disturb the peace of mind of the local paper trade, except, perhaps, rumors that a possible shortage of paper is in the offing. At the present time there is no particular shortage, except in some items, but some executives feel that straws show which way the wind is blowing and they are looking for priorities eventually in some lines, due to the defense program.

In the meantime, demand for all lines of paper continues unabated and indications are that if a shortage does not develop, volume will continue. Building paper demand has slumped a trifle during the last week or so, but the volume continues very high and there is little doubt that volume this year will be considerably ahead of last. All grades of building paper and roofing are wanted. Dealer stocks appear to be well balanced, but not unduly heavy.

Summer specialties during a wave of torrid temperature the last two weeks has moved in large volume. All items in the list were in demand. Tissues also were moving nicely last week. Prices in all items were firm last week, with a tendency toward strength in several.

Activity in the printing trades in this entire area has stimulated demand for fine paper, all items moving nicely with prices firm to strong. Printers say they have more work now being put through shops and more in prospect than for many months, in spite of the alleged summer dullness.

Wrapping paper and bags were in good demand last week with prices firm. Heavy wrapping paper was a particularly good seller. Cellophane and waxed papers also were moving well. Container factories were working practically to capacity with demand from the brewery and dairy trade heavy.

Activity continued in the rag market, according to local paper stock executives. No drastic change in prices was noted, but most grades of rags were in good demand. In the paper stock field some advances were noted on better grades, with all grades having a call.

May Reopen Winchester Paper Mill

WINCHESTER, W. Va., August 4, 1941—It was learned last week on what is believed to be reliable authority that the Eddy Paper Corporation, a subsidiary of the Kieckeffer Container Company and owner of the plant formerly operated by the Shenandoah Boxboard Corporation, expects to resume operation of the local industry in the near future.

Paper Cups Displace Aluminum

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., August 4, 1941—As a result of the aluminium drive in this city, milk companies here have announced that they were changing machinery at the bottling plants whereby aluminium caps would be discarded in favor of paper coverings.

FINANCIAL NEWS

New York Stock Exchange

High, Low and Last for Week Ending August 6, 1941

	High	Low	Last
A. P. W.	..	..	..
Armstrong Cork Co.	29	28⅜	28½
Celotex Corp.	9¼	8⅜	8¾
Celotex Corp., pf.	68½	68½	68½
Certain-Teed Products Corp.	3⅞	3⅝	3¾
Certain-Teed Products Corp., pf.	34	31½	33
Champion Paper & Fibre Co.	21½	21	21½
Champion Paper & Fibre Co., pf.	104	103⅝	104
Congoleum-Nairn Co.	17⅛	16⅞	17
Container Corp. of America	16¼	15¾	16
Continental-Diamond Fibre Co.	8⅜	8⅛	8⅜
Crown-Zellerbach Co.	14⅜	14	14⅛
Crown-Zellerbach Co., pf.	87½	87½	87½
Flintkote Co.	15¼	15	15
Robert Gair	2½	2⅛	2⅛
Robert Gair, pf.	10⅜	10¼	10¼
International Paper & Power Co.	18¾	17¾	17⅞
International Paper & Power Co., pf.	68⅛	67½	67½
Johns-Manville Corp.	66	64¼	65
Johns-Manville Corp., pf.	128	128	128
Kimberly-Clark Corp.	31	31	31
MacAndrews & Forbes	26	25⅛	25¾
MacAndrews & Forbes, pf.	..	..	..
Masonite Corp.	24	23	23
Mead Corp.	9	8¾	8¾
Mead Corp., pf.	70½	70	70
Paraffine Companies, Inc.	30⅝	30⅛	30⅜
Paraffine Companies, Inc., pf.	101½	101½	101½
Rayonier, Inc.	18¼	16¾	17½
Rayonier, Inc., pf.	29⅜	29	29¼
Ruberoid Co.	18⅜	18	18⅛
Scott Paper Co.	37½	37	37½
Scott Paper Co., pf.	110½	110¼	110½
Sutherland Paper Co.	..	..	..
Union Bag & Paper Corp.	12	11⅝	11⅝
United Paper Board Co.	4⅛	3¾	4
U. S. Gypsum Co.	62½	60½	61⅛
U. S. Gypsum Co., pf.	..	..	..
West Virginia Pulp & Paper Co.	20⅛	20⅛	20⅛

New York Curb Exchange

High, Low and Last for Week Ending August 6, 1941

	High	Low	Last
American Box Board Co.	..	..	..
Brown Co., pf.	23	20	23
Great Northern Paper Co.	39½	39	39½
Hummel-Ross Fibre Corp.	7⅛	6⅜	6¾
National Container Corp.	12	11¾	11¾
St. Regis Paper Co.	2⅝	2⅛	2¼
St. Regis Paper Co., pf.	101¾	98¼	101¾
Taggart Corp.	..	..	..

Scott Nets $1.25 Per Share

Thomas B. McCabe, president, reports net earnings available for the Common Shares of the Scott Paper Company for the six months ending July 5, 1941, of $835,609 equivalent to $1.25 per share on 667,942 Common Shares outstanding. This compares with net earnings available for Common Shares of $752,805 or $1.12 per share reported for the six-months period ending June 29, 1940. Federal Corporate Income Tax has been calculated at the proposed rate of 30% and no provision has been made for any changes in the Federal Excess Profits Tax. No Federal Excess Profits Tax is due under the existing law.

Net sales for the period were $11,846,072, an increase of 16.7% over $10,149,657 reported for the comparable period in 1940. Mr. McCabe said that sales for the period established a new six months' record for the company.

"We feel strongly our responsibility to the consumer," Mr. McCabe said, "as manufacturers of products essential to the health and welfare of the nation. Only through the extraordinary large volume of business have we been enabled thus far to continue the new low prices announced in January, in the face of higher taxes and rising prices for raw materials and other supplies."

St. Regis Holds Special Meeting

Roy K. Ferguson, president, announced that at a special meeting of stockholders of the St. Regis Paper Company held July 31 at the office of the company, Watertown, N. Y., the stockholders had approved the recommendation of the board of directors of the company with respect to the restatement of certain investments of the company on the books of the company effective as of January 1, 1941. The investments of the company restated on its books by this action are:

1)	1,341,666 sh.	Common Stock of The United Corporation restated at $1,845,000 which had been carried on the books of the Company at a valuation of $16,553,503.93.
2)	230,000 sh.	Common Stock of Taggart Corporation restated at $1,295,000 which had been carried on the books at a valuation of $5,642,843.97.
3)	(3,600 sh.	Common Stock.
	(4,056 sh.	"B" Preferred Stock of Carthage National Exchange Bank restated at $1.00 which had been carried at a valuation of $220,560.

The aggregate restated amount of the foregoing investments is $3,140,001.00 against the company's valuation at December 31, 1940, of $22,416,907.90.

In restating the value of the foregoing investments and thereby absorbing the depreciation recognized on the books of the company amounting to $19,276,906.90, the full amount of the company's earned surplus (corporate not consolidated) at January 1, 1941, amounting to $2,330,582.94 is eliminated and the balance is a charge against capital surplus.

The president said at the meeting today that the restatement of these investments of the company aids in preparing the way for a resumption of dividends on the preferred and common stocks of the company in the future.

A. W. P. Earns $95,734

The American Writing Paper Corporation, for six months to June 30, reports a net profit of $95,734, after bond interest and $58,619 provision for Federal income taxes and after setting aside $41,043 to provide for future possible pulp costs fluctuations, compared with net profit of $31,504 for last year's period. Capital stock on June 30 last, amounted to 413,462 no-par shares. June quarter: Net profit, $68,376, after $33,885 provision for Federal income taxes and $10,689 provision for possible pulp costs fluctuations. This compares with net profit of $21,625 in second quarter a year ago.

Puget Sound Earnings Up

Sales and profits, the highest on record, for both the second quarter and first six months of 1941, were reported by Puget Sound Pulp and Timber Company in its interim statement to stockholders.

Net profit after provision for estimated Federal income and excess profits taxes was $315,163 for the second quarter of 1941, compared with $263,142 for the first quarter this year and with $253,123 for the second quarter of 1940. Net profit of $578,305 for the first six months of 1941 compared with $433,433 for the like period of 1940.

After preferred dividends, net available to common stock equalled $.96 a share for the second quarter and $1.67 a share for the first six months of 1941; the latter compared with $1.18 a share for the first half of 1940. Dividends paid on the common stock totaled $1 a share in the first six months of 1941.

Production of unbleached sulphite pulp in the company's Bellingham mill reached an all-time high at 36,975 tons in the second quarter of 1941, and compared with 33,429 tons combined production of the Bellingham and Anacortes mills in the second quarter of 1940. Bellingham daily average output of 412 tons in June compared with Bellingham-Anacortes daily average of 372 tons in June, 1940.

Operating profit before Federal tax provisions was $787,907 for the second quarter of 1941, compared with $657,853 in this year's first quarter and $460,223 in the second quarter of 1940. For the first six months of 1941, operating profit before tax provisions amounted to $1,445,760, a gain of 83% over the first half of 1940.

Eastern Issues Good Report

The Eastern Corporation, in the first half of this year, experienced the biggest six months' earnings in many years for the company as presently constituted or its predecessor. The unaudited report shows a net profit of $292,765 after all charges, including provision for federal taxes. After allowing for the dividend requirements for the period on the 30,321 shares of 5%, $20 par preferred stock, amounting to $15,160, the balance is equal to $1.38 a share on 200,050 shares of common stock.

Flintkote Nets $1.45

The Flintkote Company reports for the twenty-eight weeks ended July 12, 1941, a net income of $1,016,264 after provision of $536,579 for Federal, state and foreign taxes, equal after preferred dividend requirements, to $1.45 a common share. This compares with a net income of $621,470, or 92 cents a common share for the like 1940 period.

Sylvania Earns $1.32

The Sylvania Industrial Corporation, for the six months to June 30, reports a profit of $553,891 after Federal income tax reserve of $471,000, equal to $1.32 each on 418,982 average shares of capital stock. Net profit last year was $522,338 after $202,000 tax reserves, equal to $1.23 on 421,551 average shares then outstanding.

Dixie-Vortex Earnings Up

The Dixie-Vortex Company, for the twelve months to June 30, reports a net income of $888,183, equal after dividend requirements on Class A stock to $2.18 each on 202,666 common shares, against $825,007, or $1.87 a common share, for the twelve months to June 30, 1940.

Crystal Tissue Earns $56,216

The Crystal Tissue Company for the six months to June 30 reports a net income of $56,216, or 50 cents a share, against $76,767, or 72 cents a share last year.

"Linweave Today" Is Issued

A new house organ, *Linweave Today,* has been produced by the Linweave Association, whose national headquarters are at Springfield, Mass. The publication designed to promote the sales of Linweave papers, will appear once each two months, the advertising committee of which Keith Campbell of Swigart Paper Company, Chicago, is chairman, having charge of its production.

The first issue of *Linweave Today,* just published, contains a statement concerning "Early American" the newest of the Linweave papers; a "Timely Message" from First Vice-President and General Manager E. V. Johnson, of United States Envelope Company; a "guest editorial" by Hugh G. Boyer, of Charlotte, N. C., who is president of the Linweave Association; "trade talk" from Tom Chambers, manager, of the Linweave Association; reproduction of specimens of jobs done on Linweave papers; various news items about firms and persons connected with the paper industry in different parts of the country and sales ideas for Linweave boosters.

It is the plan of the advertising committee to offer prizes to salesmen for various kinds of sales suggestions to be published in the future issues of the house organ. All of the salesmen are being urged to help the committee to obtain news items for the publication. Mr. Campbell has organized a group of professional assistants to help him.

Pacific Mills Pay More Taxes

Pacific Mills Limited, Vancouver, British Columbia, which operates a plant at Ocean Falls, and is a subsidiary of the Crown Zellerbach Corporation, paid $2,356,956 provincial and dominion income and excess profits taxes in the year ended April 30. That compared with $747,000 in the preceding fiscal year.

The tax worked to reduce net profit to $948,033 from $1,244,897, or to $11.04 a share on equity stock after preferred dividends, from $14.99. The company's plants operated at capacity through the year.

American Box Nets 53 Cents

The American Box Boards Company, for the twenty-four weeks to May 17, reports a net profit of $107,226, equal after preferred dividend requirements to 58 cents each on 121,363 shares of $1-par common stock, against $82,576, or 37 cents a common share, for last year's period; sales, $1,532,730, against $1,218,491.

Certain-teed Earns $518,721

The Certain-teed Products Corporation, for the six months ended June 30, reports a net profit of $518,721 after Federal tax provisions, against $168,581 in the 1940 period; sales, $10,624,086, against $8,359,621; operating profit after costs, expenses and depreciation, $951,383, against $240,141.

Scott Co. Votes Dividend

The Scott Paper Company has declared a quarterly dividend of 45 cents, payable September 15 to stockholders of record September 1. Previous payment was 45 cents a share on June 14, while on March 15, 40 cents was paid.

CONSTRUCTION NEWS

Tomahawk, Wis.—The Tomahawk Pulp Company has completed plans for remodeling and improving ground wood pulp mill, including new concrete floors and other work. General contract has been awarded to Koepke Construction Company, Appleton, Wis., and work will be placed under way at once. No estimate of cost announced.

North Tonawanda, N. Y.—The Robert Gair Company, 155 East 44th street, New York, N. Y., manufacturer of corrugated boxes and containers, has concluded arrangements for purchase of property and business of Buffalo Division of American Box Boards Company, Shawnee road, North Tonawanda, manufacturer of box board products, test liners, etc., and will operate as a new branch in future. Purchasing company has formed the Fort Niagara Corrugated Box Division to take over the property, and will carry out maximum production.

Canton, Ohio—The Canton Corrugated Box Company, 2820 Winfield way, N.E., manufacturer of corrugated boxes and containers, has superstructure well advanced for new addition to plant, previously referred to in these columns, and will push work to completion in near future. It will be one-story, 120 x 165 feet, estimated to cost over $75,000, including equipment, providing for considerable increase in present capacity. Dennis Steffy, Hartville, Ohio, is general contractor for erection. Lorenz & Lorenz, Canton, are architects.

Hartsville, S. C.—The Sonoco Products Company, manufacturer of box board, chip board, news board and kindred paper board products, has arranged for the purchase of local mill and business of the Carolina Fiber Company, manufacturer of fiber and corrugating board products, and will operate as a unit of its organization in the future. The two companies have been closely associated in the past, and no change is contemplated in operations at the acquired mill. The Sonoco company will use a large part of the output of the Carolina company in the future, with the remainder of production sold to outside interests, including present customers. It is expected to maintain manufacture on a capacity schedule at the Carolina mill, with full working force. The transfer of property will be made on November 1.

Chester, Pa.—The Scott Paper Company, manufacturer of tissue paper products, has taken title to an adjoining tract of land at Second and Welsh streets, totaling about 2¼ acres, heretofore held by the Philadelphia Electric Company, and will use the site, it is stated, for future expansion, for which no detailed plans have as yet been announced. Company now has work under way on new addition to mill, previously referred to in these columns, consisting of two additional stories to existing one-story finishing mill, about 48 x 200 feet, approximating 51,000 square feet of additional floor area. Space will be used primarily for expansion in paper towel-manufacturing division. Cost estimated about $200,000, with equipment, with completion scheduled in November. David M. Hunt, 1700 Sansom street, Philadelphia, has the general erection contract. Stone & Webster Engineering Corporation, 49 Federal street, Boston, Mass., is engineer.

New York, N. Y.—The American Printing and Envelope Company, 505 West Broadway, manufacturer of envelopes and other commercial paper products, has leased a floor in building at 130 West Seventeenth street, and will occupy for converting plant.

Johnsonburg, Pa.—The Castanea Paper Company, 230 Park avenue, New York, N. Y., manufacturer of book and kindred paper stocks, has completed plans for the construction of a new lagoon on 20-acre tract of land, with water capacity of 50,000,000 gallons, to be used for service at mill. It will be located on site close to two miles from the plant. It is proposed to carry out work at once by day labor. This is part of an expansion program to be carried out at mill. As recently noted in these columns, company will build a one-story and basement addition to sulphite pulp mill, about 70 x 170 feet, to be equipped for expansion. The John W. Ferguson Company, 150 Market street, Paterson, N. J., has the general contract for erection. Cost is reported close to $125,000, with equipment.

Kalamazoo, Mich.—The Master-Craft Corporation, 831 Cobb street, manufacturer of loose-leaf paper forms and devices, has taken out a permit for erection of one-story addition to plant, for which work will be placed under way at once. No estimate of cost announced. Company is affiliated with Shaw-Walker Company, Muskegon, Mich.

Los Angeles, Calif.—The Lily-Tulip Cup Corporation, 3000 East 12th street, manufacturer of paper cups and kindred products, has work in progress on new one-story addition to plant, 90 x 152 feet, previously referred to in these columns, and proposes to have structure ready for occupancy at early date. It will be used primarily for storage and distribution, and is estimated to cost close to $50,000, with equipment. The William P. Neil Company, 4814 Loma Vista avenue, Los Angeles, is general contractor. Harry T. Miller, last noted address, is architect.

New York, N. Y.—The Globe Cardboard Novelty Manufacturing Company, recently organized to manufacture cardboard specialties, has leased space in building at 544 Greenwich street, and will occupy for new converting plant.

New Companies

Chicago, Ill.—The Inter-Ocean Bag and Paper Corporation, 135 South LaSalle street, has been incorporated with capital of 676 shares of preferred and 7500 shares of common stock, to deal in paper bags and containers, and other paper products. The incorporators include H. Madsen and M. R. Marchello. New company is represented by Leo L. Donahoe, 155 North Clark street, Chicago.

Buffalo, N. Y.—The Erie Wallboard Company, Inc., has been organized to manufacture and deal in wall board and kindred products. New company is

represented by Kenefick, Cooke, Mitchell, Bass & Letchworth, Marine Trust Building, Buffalo, attorneys.

Wilmington, Del.—Delmarva Roofings, Inc., has been chartered under Delaware laws to manufacture and deal in prepared roofing, roofing papers and kindred products, with capital of $100,000. New company is represented by Robert E. Curtin, Citizens' Bank Building, Wilmington, attorney.

Racine, Wis.—The Paper Service Company, Inc., has been organized to deal in commercial and other paper products. The incorporators include J. S. Addison, Lawrence H. Smith and N. A. Botsford, all of Racine.

New York, N. Y.—Carl Ross, Inc., has been chartered with capital of 200 shares of stock, no par value, to deal in wall papers and allied products. New company is represented by Robbins Stationer, 25 Warren street, New York.

To Exhibit at N. P. T. A. Convention

The following concerns have contracted for space at the exhibition of paper to be held in connection with the annual fall meeting of the National Paper Trade Association at the Stevens Hotel, Chicago, Ill., September 15-17:

McLaurin-Jones Company, Brookfield, Mass.; Orchard Paper Company, St. Louis, Mo.; Hoberg Paper Mills, Green Bay, Wis.; Midland Products, Inc., St. Louis, Mo.; Rexford Paper Company, Milwaukee, Wis.; Continental Bag Specialties Corporation, New York, N. Y.; Container Corporation of America, Chicago, Ill.; Crystal Tissue Company, Middletown, Ohio; Cleveland Mill and Power Company, Lawndale, N. C.; Loroco Industries, Inc., Reading, Ohio; The American Paper Goods Company, Chicago, Ill.; Brown Company, New York, N. Y.; The Sorg Paper Company, Middletown, Ohio; Crossett Paper Mills, Crossett, Arkansas; Self-Locking Carton Company, Chicago, Ill.; Fort Howard Paper Company, Green Bay, Wis.; Better Packages, Inc., Shelton, Conn.; Sutherland Paper Company, Kalamazoo, Mich.; Lily-Tulip Cup Corporation, New York, N. Y.; Sherman Paper Products Corporation, Newton Upper Falls, Mass.; Sealright Company, Inc., Fulton, N. Y.; The Tanglefoot Company, Grand Rapids, Mich.; Consolidated Cover Company, San Francisco, Calif.; Wisconsin Tissue Mills, Menasha, Wis.; Central Paper Company, Menasha, Wis.; Union Bag & Paper Corporation, New York, N. Y.; National Soda Straw Company, Chicago, Ill.; Central Paper Company, Inc., Muskegon, Mich.; Tested Papers of America, Inc., Chicago, Ill.; Victoria Paper Mills Company, Fulton, N. Y.; Brown Paper Goods Company, Chicago, Ill.; Oval Wood Dish Corporation, Tupper Lake, N. Y., and Herz Manufacturing Co., New York, N. Y.

To Hold Golf Tournament

The midsummer golf tournament of the Eastern Division of the Salesmen's Association of the Paper Industry, E. O. Merchant secretary, 122 East 42nd street, New York, will be held at the Knickerbocker Golf Club, Tenafly, N. J., on August 13. The arrangements will be in charge of Malcolm Lowe of the Lowe Paper Company. Play will start at 1 P.M. and the charge of $6 covers green fees and a good dinner. Early reservations are requested.

Paper Board Prices Advanced

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., Aug. 4, 1941—Base prices of paperboard will be increased $2.50 per ton east of the Rocky Mountains under an agreement reached between leading paper board producers and the Office of Price Administration and Civilian Supply, Leon Henderson, Administrator, announced today.

The first voluntary agreement stabilizing paper board prices was worked out on June 12 and was based upon prices of wastepaper, the principal raw material, as of May 29, 1941.

Waste paper prices rose rapidly from the May 29 level and had increased from $3 to $4 per ton by June 18, 1941 when they were stabilized by agreements between OPACS and members of that trade. These agreements since have been extended to October 1, 1941 on the three low-grades of waste paper.

The new upward adjustment of $2.50 per ton in prices for paper board was based on the increased cost of wastepaper to the paper board mills since the previous agreement was reached.

Under the voluntary agreement and effective until October 1, 1941 manufacturers' prices for paperboard east of the Rockies will not exceed $45 per ton for chip board, $60 per ton for single manila lined board, and $75 per ton for white patent coated news board.

In addition to the higher price, a schedule of customary price differentials, based on quantity, weight and special requirements was agreed on between OPACS and the paperboard producers.

During the period these prices are in effect, OPACS will conduct an exhaustive investigation of the paper board price structure and its relation to prices of products made of paperboard.

Members of the paper board industry were urged to report to OPACS all instances of infractions of the base prices and differentials agreed on. Submission of cost data on various paperboard products also was requested of the paperboard manufacturers.

G. W. Ward Elected Chairman

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., August 4, 1941—At a meeting of the board of directors of the D. L. Ward Company, general paper merchants, held in the office of the company during the past month, George W. Ward, president of the company since the death of his father in 1913, was elected chairman of the board of directors, and Ralph G. Luff, executive vice-president, was elected president.

Mr. Luff became associated with the D. L. Ward Company in September, 1917, as credit manager. Successively over a period of years he had been assistant treasurer, and treasurer, resigning as treasurer in 1924 to manage the sales of the coarse paper division. A few years later he entered into special sales work in which capacity he continued until 1937 when he was elected vice-president in charge of merchandising. One year later he was elected executive vice-president.

Other officers elected at this meeting were: W. Willard Seary, vice-president; Gilbert Spare, treasurer, C. A. O'Neill, secretary; Miss A. A. Benckert, assistant secretary. David L. Ward, son of George W. Ward, was elected to the board of directors.

PAPER
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Henry J. Berger
EDITOR

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COMING EVENTS IN PAPER INDUSTRY

NEW ENGLAND SECTION. Technical Association of the Pulp and Paper Industry—Third Friday of each month at the Roger Smith Hotel, Holyoke, Mass.

DELAWARE VALLEY SECTION. Technical Association of the Pulp and Paper Industry—First Friday of each month at the Engineers Club, Philadelphia, Pa.

LAKE STATES SECTION. Technical Association of the Pulp and Paper Industry—Second Tuesday of each month at the Conway Hotel, Appleton, Wis.

KALAMAZOO VALLEY SECTION. Technical Association of the Pulp and Paper Industry—First Thursday of each month at the Park, American Hotel, Kalamazoo, Mich.

TECHNICAL ASSOCIATION OF THE PULP AND PAPER INDUSTRY, Fall Meeting, Ann Arbor, Mich., September 16-19.

NATIONAL PAPER TRADE ASSOCIATION, annual Fall Meeting, Stevens Hotel, Chicago, Ill. September 15-17.

DEFENSE AND BUSINESS

As the defense program progresses it becomes increasingly clear that business cannot operate in a normal manner and that the activities of some of the non-essential business enterprises must be severely restricted while others will be forced to shut down. "The magnitude of transferring industrial production from a civilian to a defense basis," says the July 28 issue of the *Washington Review,* published by the Chamber of Commerce of the United States, "is indicated by the stupendous sums made available for the latter. The grand total at the end of June, 1941, of congressional appropriations, authorizations, RFC funds, plus British contracts, was $49,583,000,000. Of this amount contracts let amounted to $27,318,000,000. This means that in the months immediately ahead defense spending will be stepped up by another twenty billion dollars, putting on production an additional load and making further large inroads on production for civilian use."

In commenting on the labor situation, the latest issue of *The Guranty Survey,* published by the Guaranty Trust Company of New York, says in part that, "The vital part that labor must play in national defense has been brought into sharp relief by the developments of the last few months. That the vast industrial readjustments required in the transition from a peace-time to a war-time economy would involve some labor problems was, of course, recognized from the beginning. The experience of the World War period gave sufficient evidence that this would be the case. But the habits of thought engendered by the persistent large-scale unemployment of the last decade prevented a full appreciation of the difficulties to be overcome. To a nation that had been struggling for years against an unprecedented volume of unemployment, it was difficult to conceive the possibility of serious and widespread labor shortages within a brief time. The gradually accumulating evidence since the beginning of the year has shown, however, that the attainment and maintenance of maximum industrial efficiency may encounter more formidable obstacles from the labor side than were generally anticipated at the commencement of the defense program."

The movement of workers to fill the heavy demands of defense is pointed out by the *Washington Review* as follows: "War orders for the most part have followed labor supply. Speedy delivery requirements has dictated the placing of large orders with plants able to produce, even though in some instances labor supplies had to be drawn from distances. New England, with 12.1% of the country's industrial workers, received 12.9% by dollar volume to total military contracts. New facilities contracts, however, do not present the same picture. New England, with its 12.1% of workers, has received only 6.7% of new facilities. The general tendency towards decentralization appears in the vast north central area, which with 4.8% of workers, received 8.2% of facilities. As new facilities increase, severe labor shortages are looked for. Labor supply already is becoming a key problem in the selection of sites for new plants."

Commenting on the same phase of the labor situation, *The Survey* says in part that, "Current estimates indicate that the aggregate demand for labor already is almost, if not quite, the greatest in the country's history and that this demand will become much greater before the emergency industrial effort reaches its peak. The current figures are, of course, merely estimates based on what are believed to be representative samples and as such are probably subject to a rather wide margin of error. The Department of Labor estimates that non-agricultural employment in May reached an all-time record. The National Industrial Conference Board estimates that total employment in the same month attained a record figure and that unemployment was 4,773,000 less than a year ago and the lowest since September, 1930. With emergency Government workers deducted, the members of the labor force without any form of employment are placed at less than two million. Other estimates indicate that the absorption of labor by the defense program is far from being finished. Government officials predicted last month that four million additional workers would be required in defense industries during the next twelve months, and early this year the Twentieth Century Fund forecast, on the basis of 1940 appropriations, an increase in employment of six million between the autumn of 1940 and the autumn of 1942."

In discussing the question of labor costs, *The Survey,* states in part that, "If a reasonable degree

of price stability is to be maintained, it must be recognized that the wage problem lies at the heart of the price problem. It is doubtful whether either the laboring population or the public as a whole is sufficiently aware of the disastrous nature and consequences of a war-time wage and price spiral, or of the danger that sharply rising wage rates will prove to be the starting point of such a movement. If this danger materializes, not only will the defense program face a more formidable obstacle than it has yet encountered, but labor itself will, in the subsequent reaction, ultimately lose far more than it can gain by wage advances during the present emergency."

Papers Mills Operate Under Pressure

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., August 6, 1941—Under the pressure of continued high consumer demand, paper and pulp mills in the United States operated at or near capacity throughout June, the Department of Commerce reported today.

Demand was only slightly below that of May, when orders were second only to those placed in September, 1939, when a wave of speculative ordering occurred.

Bag paper manufacturers operated at peak levels in June with orders remaining above capacity. Bag converters, with low of negligible paper stocks, were unable to obtain all desired deliveries from the mills.

Similar difficulties were faced by solid fiber container converters. Demand is rising, board manufacturers are operating at capacity and unfilled orders have reached new levels.

In addition to civilian requirements, suppliers of the defense program desire large additional quantities of these containers. The Surplus Marketing Administration, supplying food for the United Kingdom under the Lend-Lease Act, immediately requires between 35 to 50 per cent of the industry's monthly capacity.

Prices of many paper items, waste paper and spot quotations of pulp advanced during June. Coated book paper price advances were expected because of the large increase in the price of casein since the outbreak of war.

Although spot prices of pulp advanced during June, the total effect on pulp costs to consumers was negligible since at present practically all pulp is sold on contract under prices which have not changed.

B. C. Forest Industries at Peak

The British Columbia provincial forest branch has just issued its final official estimate on production of forest industries in British Columbia for 1940 at $102,804,000—an all time high record exceeding by $9,000,000 the previous mark established in 1928, and exceeding by $39,600,000 the average output for the last 10 years.

"The year 1940 brought to every major branch of the forest and wood using industries in British Columbia the best-billed order files, the highest peak of emp'oyment, and the nearest approach to total capacity production in the history of the province," the branch says in its annual report . . . "The major part of the record production was for urgent war purposes in England and Canada."

Production Ratio Report*

(Production as per cent of six-day capacity)

COMPARATIVE WEEKLY SUMMARIES

Current Weeks, 1941		Corresponding Weeks, 1940	
June 21	100.0	June 22	93.1
June 28	101.3	June 29	92.0
July 5 (Holiday Week)	75.0	July 6	69.0
July 12	95.8	July 13	91.1
July 19	100.4	July 20	91.3
July 26 (Prelim.)	*101.9*	July 27	87.6

COMPARATIVE MONTHLY SUMMARIES

Year	Jan.	Feb.	Mar.	Apr.	May	June	July
1940	89.1	84.7	82.3	84.3	90.0	92.1	85.3
1941	85.6	89.4	92.3	96.4	98.9	*99.6*	...

Year	Aug.	Sept.	Oct.	Nov.	Dec.	Year Avg.
1940	85.1	81.5	85.5	84.9	80.9	85.6
1941	...	...	...	...	...	...

COMPARATIVE YEARLY SUMMARIES

	1935	1936	1937	1938	1939	1940	1941
Year to Date	68.2	77.8	87.8	67.9	78.6	86.0	*93.5*
Year Average	69.9	80.4	79.8	71.5	83.4	85.6	...

* Based on tonnage reported to American Paper and Pulp Association. Does not include mills reporting to National Paperboard Association, except in isolated cases where both paper and paperboard are produced and separate tonnage figures are not readily available. Does not include mills producing newsprint exclusively.

PAPERBOARD OPERATING RATIOS †

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year Avg.
1936	62	67	67	70	69	70	69	75	78	82	80	74	72
1937	80	86	86	88	85	77	66	74	69	65	55	45	73
1938	54	60	61	57	58	56	57	66	66	70	65	59	61
1939	60	67	71	69	64	67	63	72	74	84	81	71	70
1940	71	70	69	70	76	79	72	74	72	79	77	71	73
1941	75	81	82	83	84	*88*							

Week ending June 21, 1941—88
Week ending June 28, 1941—90
Week ending July 5, 1941—74
Week ending July 12, 1941—77
Week ending July 19, 1941—92
Week ending July 26, 1941—*92*

† Per cents of operation based on "Inch-Hours" reported to the National Paperboard Assn.

Chlorine Under Priority Control

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., Aug. 6, 1941—Non-defense orders for chlorine will be filled only when military and defense contracts are met, E. R. Stettinius, Jr., OPM director of priorities, said in issuing an order putting chlorine under full priority control.

The order contains the unusual stipulation that producers must accept defense orders in preference to non-defense orders, although Stettinius assured them that for "the present" it is not expected that defense orders will increase greatly.

"Meanwhile," he said, "manufacturers are free to make other deliveries if they have sufficient capacity to do so after meeting defense needs."

Mr. Stettinius indicated that the action will have repercussions in the paper industry, and said he expected some paper products will be affected by the dwindling amounts of chlorine that are expected to be made available for bleaching use.

The coloring of writing papers, gloss and other paper for magazines, and high grade paper for books will be affected, he said. Newsprint will not be subject to deterioration in color or quality because of the chlorine priorities, he asserted.

The paper industry's acceptance of a horizontal cut of 10 per cent in consumption of chlorine "will result in a difference of approximately 5 per cent in paper shadings," Stettinius said. Studies are now under way to find methods of reducing consumption still further.

Chlorine production is estimated at over 700,000 tons annually, an amount considered ample for all defense needs.

OVERCOMING CAUSES OF *Curling* IN PAPER PRODUCTS WITH PROVEN METHODS AND MATERIALS

The how and why of paper curling . . . Moisture curl of paper and paper board, the most common type, is the result of an unequal race between two simultaneous actions:

1. The greater absorption or release of moisture by the exposed side of the sheet causes that side to swell or shrink more than the other side.
2. Passage of moisture vapor through the sheet from or to the unexposed side tends to equalize the distribution between the two sides. This acts to reduce the inclination of the paper to curl.

The first action practically always wins the race but anything that delays action No. 1, without interfering with No. 2, lessens the curl.

Meeting the problem . . . Wax Sizes used in the beater have been found helpful in reducing this tendency to curl. They function in two ways:

1. Under the influence of the heat of the paper machine driers, the wax melts and spreads over the fibers. While complete coverage of the fibers is probably never attained, a given quantity of wax covers a larger surface compared with other sizing materials. This reduces the area that is free to absorb moisture as shown in cut below. Retarding the rate of absorption permits more nearly equal distribution of moisture between the two sides of the sheet. This minimizes cause of moisture curl.
2. Wax acts as a lubricant on the fibers so that the fiber bonds yield when stress is exerted because of unequal expansion or contraction on the two sides of the sheet. Again, this helps to remove the tendency to curl.

Cyanamid men will help you to diagnose the causes of curling and suggest a remedy that will not interfere with the attainment of the various qualities desired in your products. Just write or tell our representative about your problem. There is no obligation.

American Cyanamid & Chemical Corporation

A Unit of American Cyanamid Company

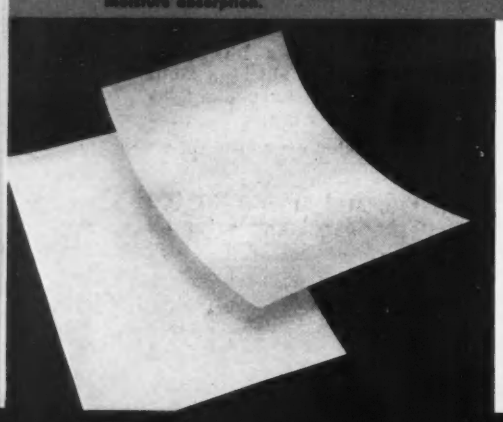
30 ROCKEFELLER PLAZA • NEW YORK, N. Y.

DISTRICT OFFICES: 89 Broad Street, Boston, Mass.; 600 South Delaware Avenue, Philadelphia, Pa.; Russell & Bayard Streets, Baltimore, Maryland; 3333 Wilkinson Boulevard, Charlotte, N. C.; 850 Leader Building, Cleveland, Ohio; 20 North Wacker Drive, Chicago, Ill.; Miller Road, Kalamazoo, Michigan; 931 Fisher Building, Detroit, Michigan; 900 Shell Building, St. Louis, Missouri; Azusa, California

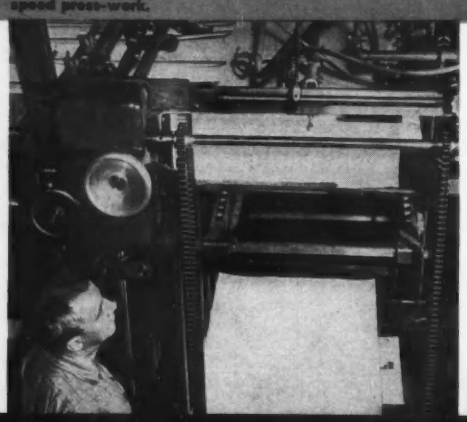
WAX SIZES • COATING MATERIALS
ROSIN SIZES • SYNTHETIC RESINS
CASEIN • ALUM • TAPIOCA FLOUR
SULPHONATED OILS • FILLERS
DEFOAMERS • AEROSOL* WETTING AGENTS and OTHER PAPER CHEMICALS

*Trademark of American Cyanamid & Chemical Corporation applied to wetting agents of its own manufacture.

Two sheets of the same basic paper stock . . . the one properly treated to overcome curling tendencies . . . the other showing the curling effect of uneven moisture absorption.



Moisture curl in paper makes handling difficult, as well as inefficient and wasteful, particularly in relation to printing where smooth, flat sheets are required for quality, high-speed press-work.



Actual photograph showing comparative degrees of spread of equal quantities of rosin and paraffin wax (.2 grams each) when heated in an oven 15 minutes at 200°F.

Section of the
Technical Association of the Pulp and Paper Industry

Edited by Ronald G. Macdonald, Secretary

Surface Wettability of Paper and the Angle Of Contact Test

By Gerard H. Lafontaine[1]

In 1934, Miss Cobb pointed out the relationship between the angle of contact formed by a drop of water on the surface of a sheet of paper and the sizing of the paper. From her deductions, it appeared that a test, based on the measurement of the angle of contact, might be developed to determine the surface wettability of paper, a property not necessarily related to the sizing or resistance of penetration as indicated by flotation tests, most commonly used.

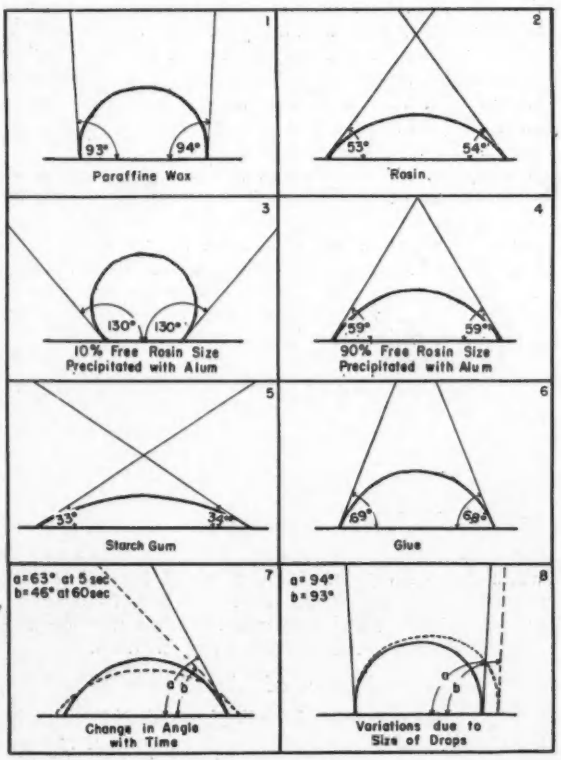
It had been noted for instance, that certain bond and ledger papers would take ruling inks more readily and more uniformly than others, but flotation tests had failed to indicate any relationship between sizing and ruling qualities. Moreover, the two sides of the same sheet of paper would not always rule equally well, indicating a definite two-sidedness in surface properties which could not be detected by flotation tests. A few preliminary tests demonstrated that differences in surface wettability could readily be measured by means of the angle of contact.

Procedure

By means of a syringe (Fig. 9), delivering drops of 1/150 to 1/200 of 1 cc., a drop of water or any aqueous solution is deposited on the surface of the paper. The magnified image of the drop is projected on a glass screen to which is attached a sheet of onion skin or other paper of equal transparency. A line representing the base of the drop on the test strip and tangents to the angle of contact with the base are drawn directly on the onion skin. The angles of contact are measured with a protractor. The average of 5 drops or 10 angles of contact may be considered representative of the surface wettability of the paper. Within certain limits, variations in the size of the drop have but little effect on the angle of contact as shown in Fig. 8.

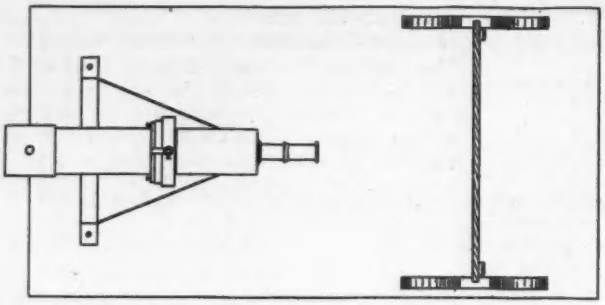
Nature of Sizing Compounds

Observations on differences of surface wettability of papers sized with various sizing compounds led to an investigation of the possible effect of such sizing agents on the angles of contact. In Figs. 1 to 6 are shown the angles of contact formed by a drop of water on films of sizing compounds most commonly used in papermaking. From these, it may be seen that paraffin wax (Fig. 1) is more water repellent than rosin (Fig. 2), but that the method of preparation of the rosin size has an important bearing on the water repellency of the rosin-alum precipitate. Thus a size with high-free rosin content (Fig. 4) has an angle of contact of the same order of magnitude as that shown by the molten rosin film, while a nearly completely saponified size (Fig. 3), when precipitated with alum, shows greater water repellency than paraffin wax. This difference in behavior might be explained by the formation of a molten film of rosin on the surface of the free rosin-alum precipitate when dried at 212 deg. F., while no fluxing occurred in the case of the saponified rosin-alum precipitate. It might then be assumed that the percentage of free rosin in



FIGS. 1 TO 8

[1] Member TAPPI; Howard Smith Paper Mills, Ltd., Montreal, Que.

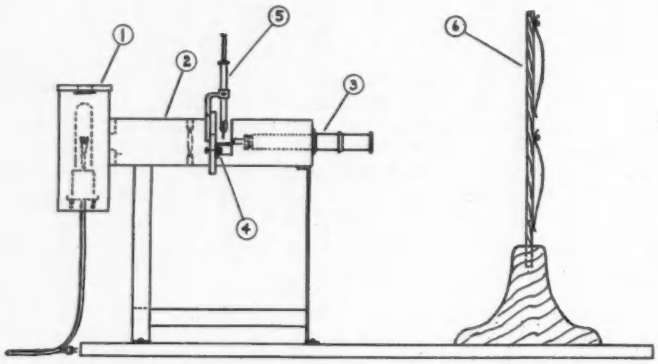


PLAN

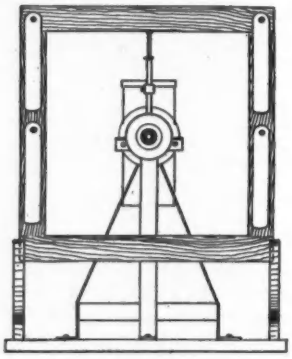
FIG. 9

Projection Apparatus for Angle of Contact Test
Scale: 0.5 inch = 5 inches

1. A Ventilated Lamp House Containing a 250-Watt Projection Lamp.
2. A Tube Containing a Lens to Concentrate the Beam of Light.
3. A Microscope Draw Tube Fitted with an Objective (no. 6 Zeiss) and an Ocular (no. 5 Zeiss).
4. A Horizontal Stage to Hold Sample under Test, the Stage to be Adjustable Vertically.
5. A Syringe—1 cc. Tuberculin Equipped with a no. 27 Hypodermic Stainless Steel Needle. (This Gives 150-200 Drops per Cubic Centimeter.)
6. A Frosted Glass Screen with Clamps to Hold a Sheet of Paper.



SIDE ELEVATION



FRONT ELEVATION

the size used might have a bearing on the surface wettability of the paper. This hypothesis was borne out in mill trial runs. Papers sized with high-free rosin content size showed greater surface wettability than papers sized with size having a low-free rosin content, even though at times, the papers sized with the high-free rosin size had a greater resistance to water penetration. Of course, in the choice of the type of rosin size to be used, local mill conditions should be considered, but it would seem from the above that, for writing papers which are not later surface sized with glue or starch, a size with low-free rosin content might be preferable, while, for wrapping papers which require good resistance to water penetration, a high-free rosin size might be more effective.

The surface wettability of glue (Fig. 6) depends also on the method of preparation and on the nature and quantity of the preservative used in the glue solution. For instance, it is well known that formaldehyde will tend to make the glue insoluble and will increase its water repellancy. Starch gums (Fig. 5) generally used for surface sizing are the most easily wetted of the sizing agents investigated. While there does not appear to be appreciable differences in the wettability of various starch gums at present on the market, wide variations in surface wettability of papers surface sized with starch gums may be obtained by varying the methods of application.

Nature of Liquid

The surface tension of the liquid used will evidently have a marked effect on the angle of contact formed by the drop. Thus when testing the surface wettability of paper, note should be made of the liquid used.

In Table I above are given the angles of contact obtained with water, U. S. Standard Ink and Waterman's South Sea Blue Ink. It may be noted that both inks have greater wetting power than water. On the harder sized rag content papers, there is little difference in the wetting power of the two inks, but on the softer sized sulphite papers, the somewhat greater wetting power of the South Sea Blue Ink is clearly indicated by the greater spread of the drop after 60 seconds.

Thus the angle of contact test might be used very effectively for determining the relative wetting power of different liquids. For instance, it may be used to test the relative efficiency of wetting-out agents. In Table II are given the angles of contact of water and of weak aqueous solutions of three different wetting-out compounds. It may readily be seen that wetting-out agent *C* is about 12 times more efficient than the other two and that, although its cost per pound is 4 times that of *A* and 8 times that of *B*, it would be the most economical to use.

Surface Finish of Paper

Differences in finish of the paper surface will affect the results of the angle of contact test to some extent.

TABLE I.—ANGLE OF CONTACT TEST VS. TYPE OF INK USED

Grade of Paper	Water @ 5 sec.	U. S. Standard Ink @ 5 sec.	U. S. Standard Ink @ 60 sec.	South Sea Blue Ink @ 5 sec.	South Sea Blue Ink @ 60 sec.
Bond—100% Rag	114	108	107	113	112
Bond—50% Rag	116	113	113	113	113
Ledger—50% Rag	96	95	94	94	89
Ledger—100% Sulphite	115	102	99	108	102
Cartridge Envelope	116	110	107	107	102
Mimeograph	122	112	105	111	98
Exercise Book—S. C...	101	94	87	95	88

TABLE II.—ANGLE OF CONTACT TEST VS. WETTING AGENTS

Wetting Agent	Gr. per 100 cc. of Water	Angle of Contact deg.	% Increase in Wetting Power
none	nil	117	...
A	0.1	85	27
A	0.5	64	45
B	0.1	87	26
B	0.5	29	75
C	0.01	71	38
C	0.1	0	100

Table III shows the effect of calendering of a sulphite ledger, surface sized with starch, on surface smoothness and surface wettability. The Williams smoothness between 5 and 20 represents the normal finish of a bond paper, while ledger papers will range between 30 and 50. We would then expect a ledger paper, all other things being equal, to rule more easily than a bond paper.

TABLE III.—ANGLE OF CONTACT TEST VS. SURFACE SMOOTHNESS OF PAPER

Sulphite Ledger, surface sized with starch
Readings taken at 10 seconds

Williams Smoothness (corrected)		Angle of Contact (Water)	
Top	Bottom	Top	Bottom
9	11	106	100
31	30	106	100
50	51	101	96
67	78	99	94
115	137	96	92
164	219	94	88

Two Sidedness of Paper

The difference in surface wettability between the two sides of a sheet of paper cannot readily be measured by means of flotation tests, although it has been known that the rate of penetration of liquids will differ when the top or bottom side of the sheet are floated face down on the liquid. In Table IV, the use of the angle of contact test in measuring differences in sizing between the two sides of paper is clearly demonstrated.

TABLE IV.—ANGLE OF CONTACT VS. TWO-SIDEDNESS OF PAPER

Sulphite Ledger, surface sized with starch.

	Top	Bottom
Water	110	99
U. S. Standard Ink	107	99
South Sea Blue Ink	102	93

Incipient Penetration

While the angle of contact test is best suited for determining surface wettability, it can be used satisfactorily to measure incipient or partial penetration at the surface of the paper. For instance, the difference in the angle of contact at the end of 5 seconds and at 60 seconds gives a good indication of the resistance of writing papers to pen and ink. In Table I, under South Sea Blue Ink, it is to be noted that the harder sized rag content bond papers show no decrease in angle of contact between 5 and 60 seconds, while the angles of contact on the other papers decreased by 5 to 13 degrees. The Exercise Book paper, with a decrease of 7 degrees in angle of contact, feathered slightly with South Sea Blue Ink, while the mimeograph paper, with a decrease of 13 degrees, had poor resistance to writing. With South Sea Blue Ink, on the papers tested, it was found that a loss of 5 degrees in angle of contact corresponded to the margin of safety allowable in writing papers.

Figure 7 represents both the initial and final angles of contact on a relatively soft-sized paper. Such a paper would feather badly when written upon. It has been found that, generally, papers with initial angles of contact lower than 80 degrees feathered with writing inks.

Incipient or partial penetration tests by measurements of the difference in angles of contact are particularly valuable in the case of coated papers. They indicate the extent of penetration of the binder into the surface layer of the base paper and help to form an idea of the resistance to plucking of the finished paper. The angle of contact test can be applied to a number of other paper sizing problems which involve surface wettability and partial or incipient penetration.

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TAPPI Notes

R. S. Von Hazmburg, formerly research chemist with the Sitroux Company, Inc., is now in the Engineering Development and Research Division of Certain-teed Products, Buffalo, N. Y.

A. T. Gardner, formerly of the Combined Locks Paper Company, is now superintendent of the Provincial Paper Company, Port Arthur, Ont.

A. M. Leth, formerly of the United Paper Mills, Copenhagen, Denmark, is now with the American Coating Mills, Elkhart, Ind.

David Kuhe, formerly general superintendent of the Southern Kraft Corporation, Panama City, Fla., for the past four years, is now general superintendent of the Union Bag and Paper Company, Savannah, Ga. Formerly Mr. Kuhe was mill manager of the Marinette, Wis., Rumford, Maine, and York Haven, Pa., mills of the International Paper Company. In all Mr. Kuhe was with the International Paper Company for the past 17 years.

The program for the TAPPI Fall Meeting at Ann Arbor, Mich., September 16-19, 1941, is practically complete and is one of the best ever arranged by the association. It should be particularly attractive to mill executives since such speakers as Clark Everest, Virgil Jordan, J. L. Riegel, W. Haber, O. R. Yoder, L. H. Burke and S. D. Kirkpatrick, leaders in the National Defense Program, will speak.

Cuba Imports More Newsprint

Imports of newsprint into Cuba in 1940 totaled 16,626 metric tons against 13,877 metric tons in 1939, the American Consulate General at Habana reported.

He quoted the Cuban Bureau of Statistics as listing 14,361 tons from the United States, an increase of 7,363 tons or 105 per cent over the 1939 tonnage.

Only 1,202 tons of the 1940 imports are definitely known to be of American manufacture, with the remaining 13,159 tons re-exports from the United States or newsprint of unknown origin.

Imports from Canada dropped from 1,530 tons to 36 tons and the Consulate General said a great part of the imports credited to the United States were Canadian manufacture. Imports from Sweden dropped off 50 per cent in 1940 compared with the preceding year. German newsprint imports dropped from 731 to 34 tons and Norwegian newsprint from 344 to 92 tons. After June of 1940 imports from the three European countries stopped.

The Colloidal Differentiation of Starches*

By Harold H. Houtz[1]

Abstract

The degree of colloidal dispersion of starches was followed throughout the cooking process by means of the soap-starch viscosity. The various species showed wide differences in the cooking conditions under which maximum colloidality is attained. Starch which had been cooked so that it was at its maximum colloidality, as indicated by the soap-starch viscosity, was found to be in its optimum condition for use in paper because the strength characteristics of the sheets were at their maxima at that point. Moreover, a good correlation was found between the strength imparted to a sheet by any starch in a condition of maximum colloidality and the height of the peak in its consistency-temperature curve.

The relative molecular weights of the different species of starch were determined by means of the viscosity of solutions of the native starch in 50% zinc chloride solution. A definite correlation was found between the molecular weight of the starch, the height of the peak in the consistency-temperature curve, and the increase in strength imparted to a sheet when the starch is utilized in a condition of maximum colloidality. The strength of a starch film and, hence, the bonding strength of the starch seem therefore to be dependent on the size of the molecule, and the ultimate benefit to be derived from the use of any starch in paper is commensurate with its molecular weight.

Although starch has been used in paper for centuries, it is only within recent years that the types used have undergone any considerable diversification. Formerly, the general practice was to use "thick-boiling" starches in the beater, whereas "thin-boiling" starches were used for the other methods of application. Within the last few years, however, numerous modified starch products particularly adapted to the paper industry have been developed *(1 to 3)*. Although the application of these products has, for the most part, been decidedly beneficial, the products have been developed largely empirically, and each grade of starch is made specifically for a particular use.

The purpose of this study was to provide some technique for the testing of starch which could be applied to the differentiation of the several species; to the observation of the changes caused by cooking the starch; and to the determination of the optimum conditions for cooking the starch for a particular use in order to obtain the maximum amount of benefit from its use.

In this work, the tests under consideration were applied mainly to different species of starch, rather than to different modifications of the same species, because it was believed that any test which gave concordant results with starches of such widely divergent origins would apply at least equally well to variations within the same species. Moreover, the starches selected—tapioca, corn, potato, and sweet potato—have, for the most part, been widely used in the industry and their characteristics have been established by long experience. These characteristics may be summarized *(4 to 6)* as follows: tapioca starch is strongly adhesive and produces a marked increase in strength and folding endurance. It is not especially effective in increasing the stiffness or rattle. Cornstarch is said to have rather less adhesive properties and does not equal tapioca in its effect on strength and folding endurance. It is considered to give a stiffer sheet with more rattle than tapioca. Its low cost has promoted its widespread use in the United States. Potato starch is strongly adhesive and its other properties are similar to those of tapioca. Sweet potato starch has only recently been made available for commercial consumption *(7, 8)* but, based on semicommercial runs, it is stated *(5)* to be comparable to tapioca and corn starches with respect to strength, opacity, and degree of sizing.

In carrying out the work a modified consistometer test, similar to that which has been briefly reported by Caesar *(9, 10)*, was made on the series of starches in order to obtain information about their granule structure and their gelatinization, rupturing, and dispersion characteristics. With this information, the colloidal dispersion of the starch throughout the cooking process was followed by the soap-starch viscosity *(11, 12)* in order to determine the zone of maximum colloidality *(13)*. The assumption was made that the starch was in its optimum condition for use at this point *(14)*. The validity of this assumption was tested by means of handsheets containing starch cooked under the optimum conditions found. On the assumption that the adhesive effect of starch and, hence, the properties which it imparts to paper, are due to the formation of films around the fibers *(4, 6, 15)* and that the strength of such films, in the same manner as films and filaments prepared from cellulose *(16, 17)*, is dependent on the molecular weight, the relative molecular weights of the starches were determined by means of their viscosities in zinc chloride solution using the relation derived by Staudinger and Heuer *(18)*.

Consistometer Experiments

The starches used in this study included high commercial grades of tapioca starch and cornstarch, an imported potato starch, and a sample of commercial sweet potato starch packaged for foodstuff purposes.

A design for a consistometer similar to that of Caesar *(9, 10)*, was adopted (Fig. 1): the cooking container was made of wrought iron turned smooth on the inside. Helical fins were placed on the inside of the container in such a way as to cause a downdraft in the starch as it was whirled in the container. In order to avoid evaporation of water from the starch paste during cooking, a condenser was provided for the top of the container with inlets for the stirrer shaft and a thermometer.

The agitator consisted of seven two-bladed propellers staggered on the shaft in such a manner as to give the maximum up-draft to the starch. The whole

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A portion of a thesis presented in partial fulfillment of the requirements of The Institute of Paper Chemistry for the degree of Doctor of Philosophy from Lawrence College, Appleton, Wis., June, 1940. This work was carried out under the direction of B. W. Rowland.

[1] Member TAPPI, Research Chemist, Crown-Zellerbach Corporation, Camas, Wash.

apparatus was so mounted that it could be taken apart readily for cleaning and returned with the agitator and container in the same relative position.

A constant speed of stirring was necessary, not only for power measurement but also for duplication of the disrupting effect of agitation on the swollen starch granules. For this purpose a direct current motor was used and controlled stroboscopically at a speed of 300 r.p.m. Power measurements were made with a voltmeter and an ammeter.

Heating was accomplished by placing the container in a water bath, the temperature of which could be raised at almost any desired rate. The water in the bath was kept in violent motion in order to increase the rate of heat transfer to the starch and to keep the temperature differential between the starch and the bath at a minimum. This insured a uniform and gradual rise in the temperature of the starch.

The various starches were cooked in the consistometer at a concentration of 15%. Heating was started at room temperature and was continued at such a rate that the starch reached a temperature of 96 deg. C. in 3 hours. During this time the speed was held constant at 300 r.p.m. and the voltage and current readings were taken at frequent temperature intervals, particularly in the gelatinization range.

Before discussing the results obtained, the terminology employed in describing the changes taking place in a starch paste should be clarified in order to avoid confusion. "Gelatinization" is the initial swelling, or "ballooning" of the granules. "Disintegration" is the rupturing of the granule, releasing the soluble inner part and leaving fragments of the granule shell. "Dispersion" is the physical effect on the micellar aggregates tending toward true colloidal dispersion. "Degradation" is the chemical effect on the starch, usually in the form of hydrolytic scission which reduces the size of the molecule.

In evaluating the results of the consistometer experiments, it is well to have some conception of the properties of the starch which the apparatus measures.

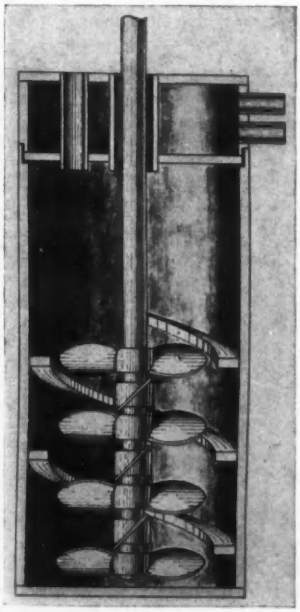

FIG. 1

Consistometer—Arrangement of Propellers and Fins

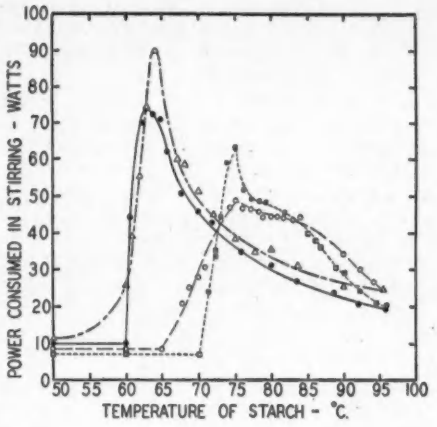

FIG. 2

Consistometer Curves of the Different Species of Starch
●— Tapioca Starch. —O— Cornstarch.
△— Potato Starch. —□— Sweet Potato Starch.

Caesar *(9, 10)* employed the consistency-temperature curves to characterize the starches by means of their pasting properties without discussing the fundamental physical or chemical properties of the starches involved. Brimhall and Hixon *(19)* state that this resistance to violent mechanical agitation at high concentrations is a composite measurement of rigidity, viscosity, plasticity, and thixotropy. However, it should be borne in mind that the action of the consistometer on pastes of the concentration employed is occasioned primarily by the severe internal shearing stresses resulting from the violent agitation. If it is assumed that a paste prepared from untreated starch is a heterogeneous mixture of swollen granules in various degrees of swelling, then the resistance, particularly at the gelatinization temperature, is caused by friction between these particles. The grinding action results in the disintegration and dispersion of the granules which, in turn, decreases the resistance to agitation. At higher temperatures, after most of the granules have been disintegrated, the consistency may be attributed to viscous sol formation and any further decrease in the resistance to agitation may be considered to be due to further dispersion of the starch tending toward a finer dispersion or to a partial hydrolysis of the starch tending toward a true solution of lower molecular weight compounds.

The results of the consistometer experiments are shown in Fig. 2. The power required for stirring a 15% paste, which may be taken as a measure of the consistency, has been plotted as a function of the temperature of the paste. The curves in Fig. 2 show a wide variation in both the magnitude and the position of the maxima for the different species. Since the consistency as measured at the lower temperatures is primarily influenced by the friction between the starch granules and is dependent on their size, it is apparent from the low temperature at which gelatinization occurs and the height of the peak consistency that the tapioca starch granules are not only extremely sensitive to swelling but also have a pronounced swelling capacity. The abruptness with which the curve rises to the maximum is indicative of a uniformity of swelling characteristics of the individual granules, gelatinization for the most part occurring in a narrow temperature range. The resistance of the granule shells to disintegration until maximum swelling is at-

tained is indicated by the linearity of the rise. The rapid drop in the curve indicates that, once completely gelatinized, the granules are quite delicate and disintegrate readily, the viscosity falling as dispersion progresses.

The curve for cornstarch, on the other hand, shows quite different characteristics. The more gradual rise to maximum is indicative of a nonuniformity in the ease with which the granules swell on heating, whereas the inflection of the curve may be taken as an indication of the fragility of the gelatinized granules and of their disintegration on a constantly increasing scale. The following steps are probably involved in the pasting of cornstarch. At about 65 deg. C. the less resistant granules begin to gelatinize, thus increasing the consistency. As the temperature is raised, more of the resistant granules are gelatinized and increase the consistency. At the same time the less resistant, gelatinized granules are being disintegrated and dispersed at an increasing rate. At the temperature corresponding to the peak in the curve, the increase in consistency due to further gelatinization is nullified by the disintegration of the swollen granules. Because of the fragility of the gelatinized granules, the maximum consistency attained by cornstarch is not nearly so high as that of the tapioca starch. At temperatures higher than that corresponding to the maximum, the effect of disintegration predominates, although the characteristic saddle-shape of the curve may be attributed to the delayed gelatinization of the smaller, more resistant granules bolstering the consistency and to some extent offsetting the thinning effect of disintegration of the granules. These views were confirmed by microscopic examination.

The consistency-temperature curve for potato starch indicates properties similar to those of the tapioca starch, with the same uniformity of gelatinization and the same fragility of the granules after gelatinization. Potato starch granules, however, are much more susceptible to swelling and have a greater distensibility and resistance to disintegration than those of tapioca starch.

Sweet potato starch shows pasting characteristics intermediate between those of tapioca and potato starches on one hand and cornstarch on the other. The granules are fairly uniform, giving a rapid rise in the curve due to gelatinization. However, the distensibility of the granules, although greater than that of cornstarch granules, is not as great as that of the tapioca starch granules and the height of the maximum is correspondingly intermediate in value. The fragility of the gelatinized granules is indicated by the inflection of the curve before maximum, as well as the rapid drop in consistency after the maximum was reached. The slight saddle-shape of the curve may be attributed to the delayed gelatinization of the more resistant granules.

A consideration of the fundamental structure of the starch granule and the properties which the consistometer measures led to the opinion that these consistency-temperature curves, and especially the magnitude of the peak consistency, should relate to their properties in use. The height of the peak is determined essentially by the swelling capacity and the durability of the granule as a whole. This, in turn, is determined by the strength of the swollen granule structure and its resistance not only to the mechanical shear but to the severe internal swelling pressure.

When starch is used in paper, regardless of the manner in which it is employed, its principal effect is the bonding together of the fibers by the adhesion of films of starch surrounding them. Since its properties in use are determined by the strength of the starch film, there might be some correlation between the strength imparted to a sheet by starch and the height of the peak in the consistency-temperature curve, if the starch is applied in the optimum condition of cook.

The consistency-temperature curves give little information concerning the further dispersion or degradation of the starches, except that the gradual downward trend indicates that the pastes are approaching true colloidal dispersions or pseudo solutions. At temperatures approaching the boiling point, dispersion and probably degradation increase and the consistency of all the pastes becomes practically the same. Since the starch added to a papermaking furnish becomes fixed to the fibers and particles through adsorption, or through the action of colloidal alumina, it is apparent that the starch should be prepared in as nearly an optimum colloidal dispersion as possible. The consistometer gives little information concerning this state in the cooking procedure.

From this viewpoint it can be seen that, to utilize starch to the best advantage, the hypothetically perfect cooking procedure would be one which would result in disintegration and complete dispersion of all the starch granules without hydrolysis of the starch particles. Due to the nonuniformity of the starch granules, this is not possible because the less resistant granules are disintegrated and dispersed in the early part of the cook, and degradation will consequently not be uniform throughout the cooking period. At some temperature between the point of maximum swelling and complete degradation of the starch molecule, there should be a point at which the starch is at its optimum degree of colloidal dispersion, possibly at a "zone of maximum colloidality."

Soap-Starch Viscosity

When a soap solution is added to a starch dispersion the soap becomes bound to the colloidal starch particles present, forming a complex with them. It is attracted little, if at all, by the undispersed starch granules or by the soluble molecules resulting from the fission of the starch molecules. The net result is an increase in viscosity of the mixture over that of the starch alone because of the formation of the coascervate. The point in the cooking procedure at which the soap-starch viscosity is a maximum might, then, be the "zone of maximum colloidality," and the point at which the starch is in its optimum condition for use.

In order that the results of this series of soap-starch viscosity experiments would correspond with those of the consistometer experiments, the starch was cooked at 15% concentration in the consistometer, under the same conditions which obtained in previous runs, and samples were withdrawn at regular temperature intervals after the maximum found in the previous runs had been reached. The temperature was raised to 96 deg. C. and held there for 50 minutes. Samples were taken at 10-minute intervals after 96 deg. was reached, because this corresponded quite closely to the time interval for sampling below 96 deg. C.

The starch sample was diluted to 0.5%. With the soap-starch systems, 12% of dissolved sodium oleate (on the weight of starch) was added before the final dilution; this was found by Heald *(12)* to be the optimum concentration. Viscosities were determined at a concentration of 0.5% and a temperature of 30 deg. C., using an Ostwald viscometer. The in-

crease in relative viscosity caused by the addition of soap was plotted (Fig. 3) to determine the position of the maximum. Typical data for tapioca starch are given in Table I.

TABLE I.—RELATIVE VISCOSITIES OF ROYAL TAPIOCA STARCH

(Concentration, 0.5% starch; temperature, 30 deg. C.)

Cooking Temperature, deg. C.—min.	Starch	Relative Viscosity Soap-Starch	Increase
68	1.44	2.46	1.02
72	1.47	2.92	1.45
76	1.63	3.68	2.05
80	1.69	4.32	2.63
84	1.77	4.66	2.89
88	1.78	4.70	2.92
92	1.78	4.28	2.50
96	1.77	4.22	2.45
96—10	1.77	4.17	2.40
96—20	1.52	3.71	2.19
96—30	1.62	4.16	2.44
96—40	1.77	4.16	2.39
96—50	1.74	4.05	2.31

From these data it can be seen that, whereas the viscosity of the starch itself gives slight indication of the changes taking place on cooking, these slight changes are greatly accentuated by the addition of soap. At the lower temperatures, when the starch is gelatinized but not appreciably disintegrated, the increase in viscosity on the addition of soap is moderate but as disintegration continues, as indicated by the decrease in consistency, the soap-starch viscosity increases rapidly to a certain point as a result of colloidal dispersion. In all probability, degradation is taking place but, at temperatures below those corresponding to the maximum in the soap-starch viscosity curve, the increase in dispersion predominates. The reason for the minima observed, particularly in the cases of cornstarch and tapioca starch, and in the cases of potato starch and sweet potato starch, is not apparent. It was noticed, however, that the samples in the region of these minima, when diluted to 0.5% tended to form a flocculent precipitate which settled, leaving a clear supernatant liquid, if allowed to stand for an appreciable length of time. This was especially noticeable in the case of cornstarch. In any event, however, the initial maxima may be taken as the points of maximum colloidal activity. Starches cooked to this point, as well as either side of it, were incorporated in handsheets for physical testing in order to verify the assumption that the starch is in its optimum condition for use at this point.

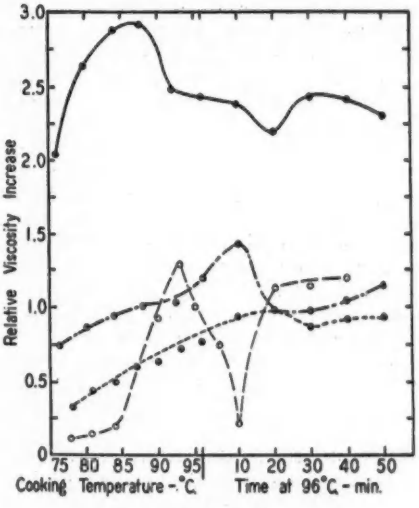

FIG. 3

Increase in Viscositey of the Different Species of Starch on the Addition of Soap

——●— Tapioca Starch. ———O— Cornstarch.
– – – –●– Potato Starch. – – – – ◗ – Sweet Potato Starch.

Preparation and Testing of Handsheets

Since the adhesive properties of starch are frequently used to supplement beating, it was believed that the effect of starch addition would be most pronounced with stock which had been "hydrated" as little as possible during beating. To obtain good formation, however, some beating was necessary. A high-grade bleached sulphite pulp was prepared for use by processing it for a short time in a 1.5-pound laboratory beater at a fairly low consistency with heavily loaded bedplate lever.

Five sets of handsheets were prepared for each species of starch. Two sets contained 4% of starch cooked to temperatures below the optimum, one at the optimum temperature, and two above the optimum. The temperatures chosen for each species were as follows: tapioca starch, 84, 86, 88, 90, and 92 deg. C.; cornstarch, 89, 91, 93, 95, and 5 minutes at 96 deg. C.; potato starch, 94, 96, 10 minutes at 96, 20 minutes at 96, and 30 minutes at 96 deg. C.; sweet potato starch, 96, 10 minutes at 96, 20 minutes at 96, 30 minutes at 96, and 40 minutes at 96 deg. C. Three percent of rosin size and 6% of alum were used in the sheets.

In the preparation of these handsheets, the variables to be evaluated were the species of starch and the temperature of cooking the starch. As many as possible of the other variables were either controlled or eliminated by duplication of technique. The degree of agitation, the amounts of size and alum, and the time during which the materials were in contact (about 30 minutes) were all held constant throughout, and the pH was adjusted within narrow limits (5 to 5.5) for each batch in order to eliminate, so far as possible, the variable of retention.

The tests made on the handsheets were selected to give an indication of the improvement in fiber-fiber bonding owing to the adhesive properties of the starch. They included bursting strength, fold, and tensile strength. The strength characteristics of the handsheets are given in Table II.

From the strength data it can be seen that the soap-starch viscosity gives a true indication of the optimum cooking conditions for the starch because, in general, the maxima of the curves occur at the temperature or time of cooking at which the zone of maximum colloidal activity was found by the soap-starch viscosity effect. Moreover, there is a good correlation between the strength characteristics imparted by the starch and the consistency-temperature curves of Fig. 2. The height of the peak in the consistency-temperature curve for a particular starch being an indication of the relative increase in the strength of a sheet which may be expected from that starch if it is utilized at its optimum degree of colloidal dispersion.

Since the pulp was the same in all cases, the increase in strength may be attributed to improved fiber bonding. The folding strength, which is the strength characteristic probably most sensitive to changes in fiber bonding, is affected both by the species of the starch and by the conditions under which it was cooked.

Determination of Relative Molecular Weights

The folding strength of rag halfstocks, which are practically pure cellulose, has been found to be a

TABLE II.—STRENGTH CHARACTERISTICS OF HAND-SHEETS CONTAINING THE DIFFERENT SPECIES OF STARCH

Species	Cooking Temp. deg. C.—min.	Fold		Breaking Length, meters		Bursting Strength, points/100 lb.	
		Value	P. E.	Value	P. E.	Value	P. E.
Blank	.....	19.0	3.7	3408	98	16.7	0.7
Tapioca	84	44.8	1.3	4270	151	30.7	1.7
	86	53.0	9.4	4415	264	34.3	2.0
	88	84.0	11.8	5020	129	37.0	2.0
	90	60.4	10.8	4400	115	30.2	0.9
	92	52.6	7.7	4360	129	29.3	1.5
Corn	89	35.2	5.7	4090	111	24.3	1.3
	91	35.4	9.6	3950	112	25.1	1.3
	93	43.8	13.2	4090	120	27.2	1.4
	95	46.4	7.1	4380	99	27.6	1.2
	96—5	38.6	8.0	4100	236	27.0	2.0
Potato	94	46.3	4.6	4390	256	34.4	1.3
	96	69.0	20.9	4650	234	31.9	1.6
	96—10	87.4	15.7	4680	100	34.5	1.2
	96—20	79.6	10.9	4585	151	37.9	2.1
	96—30	64.0	10.8	4570	109	36.1	1.7
Sweet Potato	96	51.8	9.3	4280	230	30.5	1.0
	96—10	58.0	16.5	4530	152	31.1	1.6
	96—20	71.4	25.8	4650	226	31.6	1.5
	96—30	58.2	12.4	4460	174	27.8	1.3
	96—40	47.2	5.8	4080	130	26.8	1.5

linear function of the molecular weight of the cellulose *(20)* as shown by the cuprammonium viscosity. It has been found *(16, 17)* that the strength of films prepared by the conversion of cellulose is dependent to a large extent on the molecular weight of the original cellulose. These two facts, as well as the fact that the folding strengths of the sheets containing the starches varied so markedly from species to species, led to the possibility that the strength of the starch film might likewise be dependent upon the molecular weight of the starch.

In order to study this point further, the molecular weights of the different species of starch were estimated, employing the relationship between the molecular weight and the viscosity of solutions containing rodlike molecules as derived by Staudinger and Heuer *(18)*. The equation which they derived on the basis of theoretical considerations is

$$\eta_{sp}/C = K_m M,$$

in which η_{sp} is the specific viscosity, defined as the relative viscosity minus one, of a solution of a substance of molecular weight M at a concentration C. K_m is a constant, the value of which is determined by the solvent used and the units in which the concentration is expressed. In the derivation of the equation, a free diffusion condition of the solute was assumed. Such a condition is theoretically attainable only at extremely low concentrations due to the mutual interfering action of the molecules. For this reason, the viscosity at several low concentrations must be determined and the value at zero concentration determined by extrapolation. The molecular weight is proportional to the value of η_{sp}/C at zero concentration.

TABLE III.—VISCOSITY OF THE DIFFERENT SPECIES OF STARCH IN ZINC CHLORIDE SOLUTION

Species	Concentration g./100 cc.	Relative Viscosity	η_{sp}	η_{sp}/C
Tapioca	0.01	1.02685	0.02685	2.685
	0.02	1.04457	0.04457	2.228
	0.04	1.08887	0.08887	2.222
	0.07	1.16023	0.16023	2.289
	0.10	1.23127	0.23127	2.313
Corn	0.01	1.01345	0.01345	1.345
	0.02	1.02643	0.02643	1.322
	0.04	1.05379	0.05379	1.345
	0.07	1.09799	0.09799	1.385
	0.10	1.14204	0.14204	1.420
Potato	0.01	1.02658	0.02658	2.658
	0.02	1.05103	0.05103	2.552
	0.04	1.09820	0.09820	2.455
	0.07	1.17686	0.17686	2.527
	0.10	1.25504	0.25504	2.550
Sweet Potato....	0.01	1.02314	0.02314	2.314
	0.02	1.03701	0.03701	1.850
	0.04	1.06828	0.06828	1.707
	0.07	1.12067	0.12067	1.724
	0.10	1.17331	0.17331	1.733

In order to use this method, it was first necessary to find a solvent which would dissolve the starches in their granule form without the imposition of drastic conditions which might rupture the molecule. A 50% solution of zinc chloride was found to dissolve starch readily and to produce a transparent solution which showed no undispersed particle when viewed microscopically with dark-field illumination.

Accordingly, the different species were dissolved in their native forms in concentrations of 0.01, 0.02, 0.04, 0.07, and 0.10 grams of starch per 100 cc. of 50% zinc chloride solution by means of a tumbling device which was immersed in a water bath at 30 deg. C. Agitation was continued for 3 hours. The viscosities were determined with a modified Ostwald viscometer in a water bath held at a temperature of 30 deg. C. A close regulation of the temperature (±0.002 deg. C.) was required, because the differences to be measured were small and the viscosities of the solutions were found to be sensitive to even slight variations in the temperature. The values of η_{sp}/C are given in Table III.

Kraemer and Van Natta *(21)* have stated that Staudinger's equation is valid only at low concentrations where the relative viscosity is a linear function of the concentration. The pronounced upward trend of the curves at the lowest concentrations may be attributed to hydration of the molecules. The values of η_{sp}/C were therefore determined by extrapolating the straight portion of the curve to zero concentration. The intercept on the η_{sp}/C axis was taken as a relative measure of the molecular weight of the starches.

It is apparent that there is a definite correlation between the molecular weight of the starch, the height of the peak in the consistency-temperature curve (Fig. 2), and the increase in strength imparted to a sheet when the starch is utilized in a state of maximum colloidal activity. The strength of a starch film and, hence, the bonding strength of the starch seem therefore to be related to the size of the starch molecule.

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Plan for Chemical Exposition

M. C. Whitaker, vice president of the American Cyanamid Company, is again chairman of the advisory committee for the 18th Exposition of Chemical Industries. The exposition is to be held in Grand Central Palace, New York, December 1 to 6, next. Advance reservations already account for practically all of the available exhibit space.

Stimulated by the present national emergency, the chemical industries are undergoing the most rapid expansion in history. This is reflected by the exceptional response of exhibitors who supply these industries with engineering and technical equipment and products, as well as the producers of chemical products. The result is the assurance, six months before the opening of the Exposition, of three floors in the Palace completely filled with the latest developments in materials and processing equipment.

Included among the exhibits will be many illustrating how, as defense production approaches full-blast operation, the chemical industries are bringing forward answers to problems which have never before been solved commercially.

More innovations will be made available through the new activities revealed at the forthcoming Exposition than at any time since it was founded in 1915, during the national emergency created by the last world war, according to Charles F. Roth, Manager of these Expositions.

Jackson Paper Co. 20 Years Old

The Jackson Paper Company, Jackson, Miss., is celebrating its 20th anniversary. In connection with this event it has sent the following announcement to its customers and friends.

"Twenty years has brought many changes to Jackson and Mississippi. Population increases, industrial, commercial and agricultural development, and increased purchasing power, have all contributed to the growth and progress of our citizenship.

"Typical of numerous pioneers in Mississippi business during this period of progress is the Jackson Paper Company. In July, 1921—just twenty years ago—this business was born. It was the first wholesale paper house in the entire state.

"Realizing that Mississippi needed the facilities of a modern paper house within its borders, H. T. Newell established at that time the Jackson Paper Company, which has, during two decades, featured quality paper products and prompt service to all customers.

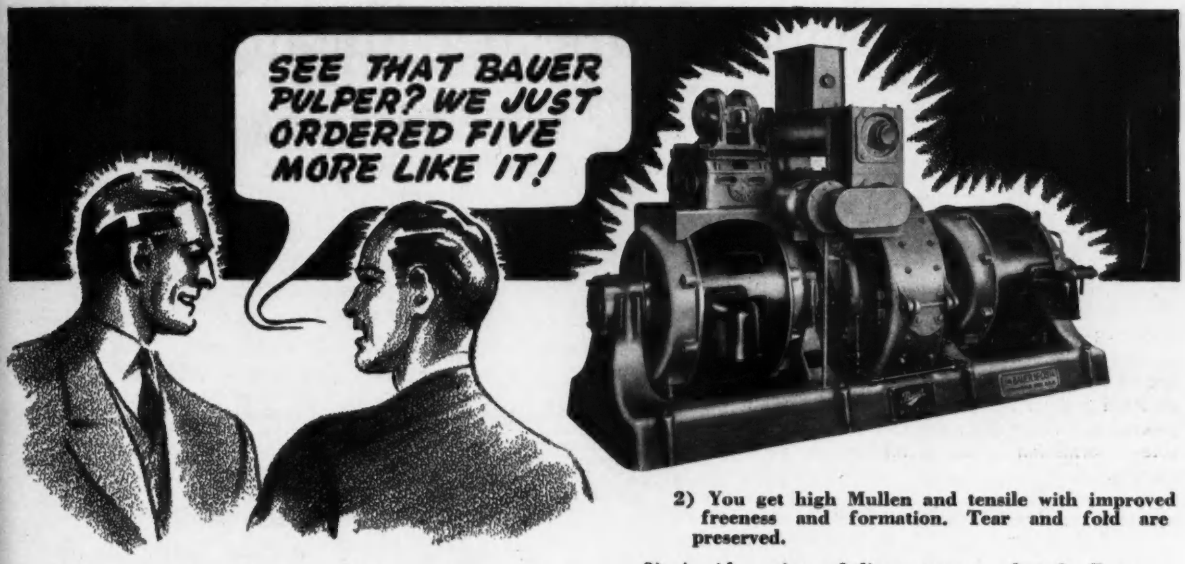
"As twenty years of service draws to a close and the Jackson Paper Company observes its 20th birthday, this opportunity is taken to express appreciation to the retail businesses, to the publishers, to the commercial printers and to the others who have, down through the years, had a part in our growth and progress.

"With the enthusiasm of a youth of twenty the Jackson Paper Company again dedicates itself to the service of Jackson and Mississippi and pledges a continuation of satisfactory customer service with a maximum of speed and efficiency."

Chile Produces More Newsprint

Chilean production of newsprint was only 100 tons higher in 1940 than in 1939, according to a recent report from Commercial Attache Clarence C. Brooks, Santiago. The only mill producing newsprint reported an output of 10,700 tons of both newsprint and magazine paper, of which 9,000 tons were in rolls and 1,700 tons in sheets. Imports during 1940 were slightly in excess of those for the preceding year, reaching 10,344 tons. For the first time in many years, the United States ranked first in the list of supplying countries, with Sweden a close second. Canada continued to lose ground, imports from that source having declined steadily since 1937, when they amounted to 9,576 tons. It is reported that no recent importations of newsprint have come in from the Scandinavian or other European countries, but official statistics are lacking to confirm or deny this statement.

According to reliable estimates, the country's annual consumption of newsprint is in the neighborhood of 16,000 metric tons, of which about 13,000 tons are consumed by dailies and the remainder for magazines. Stocks on hand are considered normal, and on the basis of the above figures would have been around 5,000 tons on January 1, 1941.



Right . . . mills who operate Bauer pulpers reorder Bauers on expansion or replacement. In the last 18 months *over one-half* of all Bauer pulpers sold were repeat orders.

Here's why you will want to order Bauer:

1) Stock is rubbed, rolled and squeezed with little cutting or shortening.

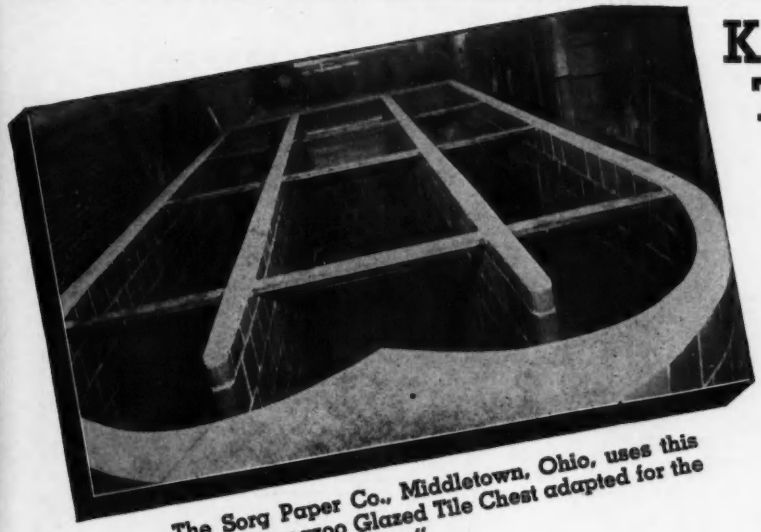
2) You get high Mullen and tensile with improved freeness and formation. Tear and fold are preserved.

3) A wide variety of disc patterns makes the Bauer pulper adaptable to any pulping job, including *kraft knotter* and *screen rejects*, *semi-chemical* and *semi-sulphite* pulps, *ground wood screenings*, *boxboard*, and *container*.

4) Two sizes are available . . . 24″ and 36″ diameter.

Write for full details.

THE BAUER BROS. CO. SPRINGFIELD, OHIO



The Sorg Paper Co., Middletown, Ohio, uses this 37-foot Kalamazoo Glazed Tile Chest adapted for the Shartle Bros. "Agi-Flow."

★

KALAMAZOO TILE CHESTS

Low storage cost, smooth walls inside and out for quick cleaning, and carefully designed adaptation to pump delivery and agitation for stock storage and bleaching — those are the advantages that make Kalamazoo Glazed Tile Chests a good business investment.

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WOOD

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Giving Manifests of New York, Boston, Philadelphia and Other Ports of Newsprint, Wrapping, Writing, Coated, Blotting, Tissue, Strawboard; Bleached Sulphite More Acute—Some Grades of Old Waste Lower.

Effective September 30, 1939, under Treasury Decision 49,970, all publications, exchanges and trade associations, were denied access to import manifests at the New York Customs House. The Paper Trade Journal and other interested parties have vigorously protested this ruling, and as soon as the order of the Treasury Department is modified or rescinded, full publication of all manifests will be resumed in these columns. In the interim, the Paper Trade Journal is making every possible effort to gather all available information from manifests, at various outside sources.

NEW YORK IMPORTS

WEEK ENDING AUGUST 2, 1941

SUMMARY

Cigarette paper .....100 cs.
Newsprint .....1,011 rolls
Tissue paper .....14 cs.
Filter paper ..... 6 cs.
Drawing paper ..... 2 cs.

CIGARETTE PAPER

——, ——, Barcelona, 100 cs.

NEWSPRINT

H. G. Craig Co., Inc., ——, Donnacona, 395 rolls.
International Paper Co., ——, Gatineau, 284 rolls.
H. G. Craig Co., Inc., ——, Donnacona, 332 rolls.

TISSUE PAPER

F. C. Strype, ——, Liverpool, 14 cs.

FILTER PAPER

H. Reeve Angel & Co., Inc., ——, Liverpool, 6 cs.

DRAWING PAPER

H. Reeve Angel & Co., Inc., ——, Liverpool, 2 cs.

BAGS, BAGGINGS, ETC.

New England Waste Co., ——, Santos, 166 bls. cotton linters.
West Texas Cottonoil Co., ——, Santos, 2,780 bls. cotton linters.
Hercules Powder Co., ——, Santos, 4,825 bls. cotton linters.
Fritz Stern, ——, Buenos Aires, 6 bls. new woolen clips.
American Trans Oceanic Sales Co., ——, Buenos Aires, 16 bls. rags.
Murbas Trading Co., ——, Buenos Aires, 43 bls. rags.
West Texas Cottonoil Co., ——, Santos, 1,422 bls. cotton linters.
Richard Shipping Co., ——, Santos, 18 bls. woolen waste.
——, ——, Liverpool, 155 bls. rags.
Philadelphia Nat'l Bank, ——, Callao, 51 bls. cotton linters.
——, ——, Callao, 32 bls. cotton waste.
W. R. Grace & Co., ——, Callao, 13 bls. cotton linters.
Hercules Powder Co., ——, Buenos Aires, 2,237 bls. cotton linters, 435 bls. cotton residue.
West Texas Cottonoil Co., ——, Buenos Aires, 2,345 bls. cotton linters.

OLD ROPE

R. L. Pritchard, ——, Calcutta, 425 bls. old hemp rope cuttings.
Loumar Textile By Products, Inc., ——, Calcutta, 100 bls. old hemp rope strings.

LEATHER WASTE

——, ——, Rio de Janiero, 114 bls.
H. Remis & Co., ——, Rio de Janiero, 235 bls.

BONE GLUE

Biological Raw Products, Inc., ——, Santos, 500 bags.

HIDE CUTTINGS

——, ——, Liverpool, 430 bags.

CASEIN

C. W. Burckhalter, Inc., ——, Buenos Aires, 417 bags.
D. C. Andrews & Co., ——, Buenos Aires, 50 bags.
T. M. Duche & Sons, Inc., ——, Buenos Aires, 1,500 bags.
American Cyanamid & Chemical Corp., ——, Buenos Aires, 1,834 bags.
National City Bank, ——, Buenos Aires, 260 bags.

Issues New Flooring Handbook

"New Ideas in Functional Floor Design" is the title of a 16-page handbook on the many uses of open steel floor grating just published by the Open Steel Flooring Institute. The handbook has been prepared by the Institute to provide detailed technical and working knowledge of the several types of open steel floor grating, riveted, welded and interlocked, manufactured by its members.

Included in its contents are a Table of Safe Loads based on U. S. Government specifications—a typical hypothetical floor layout—detailed clipping or fastening diagrams—suggested specifications. Dozens of illustrations of open steel flooring installations show the wide range of application of the product.

A copy of "New Ideas in Functional Floor Design" may be secured free of charge by writing The Open Steel Flooring Institute, American Bank Building, Pittsburgh, Pa.

Buy Bayless Pulp Co. for $170,000

A press dispatch under date of August 4 from Coudersport, Pa., says that Van Alstyne, Noel & Co., New York, investment firm, announced today that it was buying the Bayless Pulp and Paper Company for Veda Mines, Inc., of Telluride, Col.

Judge Robert Lewis signed a court order permitting sale of the company to the New York firm for $170,000. The order becomes final in twelve days unless stockholders of the paper company, which is in receivership, protest.

It is reported that the firm proposes to put the plant, closed since September, into operation.

Chemist Enlists in Army

Rudolf K. Weiler, research chemist for the Nekoosa-Edwards Paper Company, Port Edwards, Wis., has enlisted for army service, and left his position Monday of this week. He has been with the company since April, 1939. Weiler came to the United States from Germany in September, 1936, where he had trained in the technical college at Darmstadt, specializing in the paper and pulp field. He was a soldier of the German Reich and was once a member of the Nazi party. He announced that his reason for joining the army was to prove his loyalty to the United States.

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Tyrone, Pennsylvania
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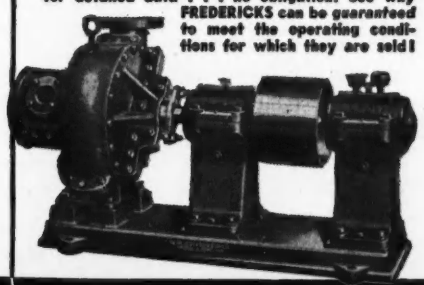
EXTRA heavy shafts made of chrome heat-treated steel are carried in long babbitted sleeve bearings arranged for ring oiling . . . Non-clog impeller wheel is specially designed to permit easy flow of heavy stock . . . Patented adjustable liner plates on front and rear sides of the impeller make adjustment or replacement easy . . . Extra long packing box houses; twice the usual number of rows of packing.

These are just a few of the special FREDERICK features you will want to know all about. Write for detailed data . . . no obligation. See why FREDERICKS can be guaranteed to meet the operating conditions for which they are sold!



The FREDERICK IRON & STEEL COMPANY
FREDERICK, MARYLAND

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UNITANE-O

A brilliantly WHITE, pure, fine titanium dioxide possessing excellent . . .

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- **BRIGHTNESS**
- **DISPERSION**

Suitable for ALL types of paper ranging from thin printing papers and waxing tissues to coated book and magazine stocks.

UNITANE O—110 was especially developed for paper pigmentation. Its excellent dispersion in water promotes good retention and excellent sheet formation. As a component of the beater furnish, it produces *whiter* sheets of *great brilliance*, and superior printing qualities.

SAMPLES of UNITANE O-110 will be sent promptly upon request.

UNITED COLOR & PIGMENTS

UNITED COLOR AND PIGMENT CO.

DIVISION OF INTERCHEMICAL CORPORATION
NEWARK, NEW JERSEY
SALES OFFICES IN PRINCIPAL CITIES

New York Paper and Pulp Market Review

Chlorine Supply Situation More Acute With Further Cut In Use By Paper Manufacturers Expected Soon — Heavy Demand For Paper Continues — Lower Grades of Waste Paper Stabilized.

Office of the PAPER TRADE JOURNAL,
Wednesday, August 6, 1941.

The heavy demand for paper and many paper products continues, with defense and civilian requirements creating a demand substantially in excess of current capacity production, now reported at 100%.

Reports from many manufacturers' representatives, jobbers, and general paper merchants during the week reflect increasing concern regarding deliveries now and the possibility of severe shortages of paper in the future. The future supply is uncertain, as it includes the increased demands of the government for paper and the supply of chemicals for paper and pulp manufacturers. More and more, the priority control measures for speeding up the defense program is being felt in most civilian goods.

The sharp curtailment of the supply of chlorine for the paper industry is expected to reduce to a marked extent the present normal brightness standard in paper. A difficult period for industry and trade engaged in non-defense activities is beginning to be experienced, with the prospect that heavy sacrifices must be made as the defense program progresses.

The index of general business activity advanced to a new high of 133.3% for the week ended July 26, from 131.5% for the preceding week, compared with 107.3% for the corresponding week last year. Paper board production advanced 1.9%.

Paper production for the week ended July 26 was estimated at 101.9%, compared with 87.6% for 1940, with 70.0% for 1939, with 77.1% for 1938, and with 83.9% for the corresponding week for 1937.

Paper board production for the week ended July 26 was 92.0%, compared with 74.0% for 1940, with 70.0% for 1939, with 64.0% for 1938, and with 74.0% for the corresponding week for 1937.

Newsprint paper in adequate supply and at stabilized prices is indicated by current production, consumption and market reports. Domestic mills produced 1.2% more newsprint in the first six months of this year, or 6,125 tons more, than in the same period last year; Canada produced 1.3% less, and the Newfoundland output was 2.5% more. Canadian and U. S. mill stocks, as of June 1, 1941, totaled 177,965 tons, compared with 198,112 tons at the same date last year.

The trend of total manufacturing costs indicates that some upward adjustments in paper prices may occur in the final quarter of this year. A definite move to a higher price level is the advanced prices on some grades of paper board approved by Price Administrator, Leon Henderson, on August 4. This is viewed in the trade as encouraging and that the government is disposed to treat business more fairly than some critics have interpreted government intentions and plans.

The fixed prices, made by voluntary agreement between manufacturers and the government, places a maximum quotation of $45 per ton on chip board, $60 per ton on single Manila-lined board, and $75 per ton on white patent coated news board. These quotations are based on the price of waste paper on May 29.

Chemical Pulp

The important current problem confronting pulp and paper manufacturers is the chlorine situation. The heavy requirements for this chemical for defense needs will drastically restrict its use for the production of all civilian goods. The industry has voluntarily responded to government requests by reducing its use of chlorine by nearly 20%. Further reductions must be made, however, and the problem of reducing total consumption of chlorine in the various grades of paper, is expected to achieve the desired result, with the least possible hardships to the paper industry.

No change in the market situation on contracts will occur in the third quarter, and prices are at a moderately high level, with demand in excess of supply. The spot market quotations are strictly nominal and the seller of pulp is in a position to quote any price he desires.

Rags

The rag market is firm with all prices well maintained. The top grades are reported very firm, with advances in new white No. 1 shirt cuttings, currently quoted at from 6.75 to 7.00; and new unbleached, currently quoted at from 6.50 to 6.75.

The roofing grades are strong, with the price advances expected in some quarters of the trade yet to occur.

Old Rope and Bagging

The old rope market continues firm, with prices strong at from 6.00 to 6.25 on foreign and domestic Manila rope. Jute threads are also higher this week and currently quoted at from 3.50 to 3.75.

Demand for bagging is good and the supply is reported continuing limited and uncertain. No important change in prices has been reported this week.

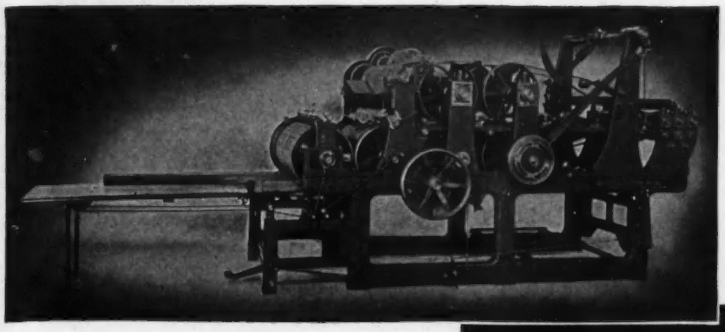
Old Waste Paper

Prices on the major lower grades of waste paper have been voluntarily stabilized until October 1, at a base as of prices on June 18. The grades affected are mixed paper, folded news and old corrugated boxes. Ledger stock has advanced this week, the white grade being currently quoted at from 2.10 to 2.15 and colored ledger stock at from 1.75 to 1.90.

Twine

A strong twine market, due to heavy demand and limited supply of imported fibers, creates a firm and active twine market at this date. No important change from prevailing average, representative market quotations has been reported at this date.

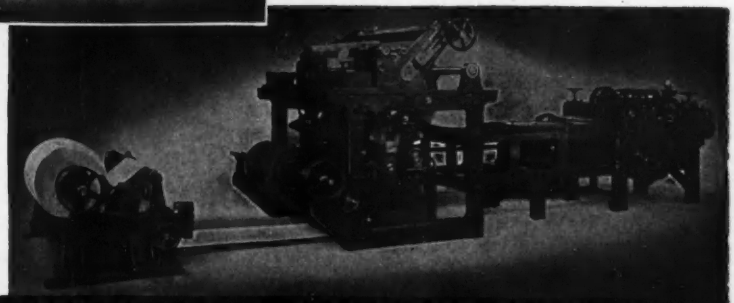
PAPER BAG MACHINERY . . .



Machinery for flat, square, and satchel bottom bags. The famous tuber and bottomer for flour, cement, lime, and other heavy materials.

Heavy duty combination bottomer for valve or satchel bottoms.

Tuber for multiwall pasted bottom tubes with **Electric Eye** web control, keeping edge of paper in line for side seams and cross paster for bottoms.



1828

The SMITH & WINCHESTER Manufacturing Company

SOUTH WINDHAM CONNECTICUT ②

ZOPAQUE RG

Pure TiO_2

This grade of TiO_2 shows highest developments of aqueous dispersion and suspension yet attained.

An exclusive development for the paper industry.

Try it!

Sole Selling Agents:
The Chemical & Pigment Company
Baltimore, Md. · Collinsville, Ill. · Oakland, Calif.
Manufactured by
American Zirconium Corporation
Baltimore, Maryland

More than just a TRADE MARK

EXCELSIOR KNOX Woolen Co. Camden, Me. FELTS & JACKETS

BUT also a guarantee by men who for 75 years have prided themselves in making finer felts. TO YOU —this is the mark of dependability, longer felt life and greater saving.

KNOX WOOLEN CO.
CAMDEN, MAINE.

MISCELLANEOUS MARKETS

Office of the PAPER TRADE JOURNAL.
Wednesday, August 6, 1941.

BLANC FIXE—Quotations on blanc fixe are firm and continue unchanged at prevailing market levels. Demand reported steady for the week. The pulp is currently quoted at $35 per ton in barrels, at works; the powder is offered at $50 per ton, f.o.b., works.

BLEACHING POWDER—Prices on bleaching powder are firm. Market reported active for the week. Bleaching powder is currently quoted at $2 per 100 pounds, in drums, at works.

CASEIN—Quotations on casein are higher. Demand active for the week. Standard domestic casein, 20-30 mesh, is currently quoted at 22½ cents per pound; 80-100 mesh, at 23 cents per pound; all prices in bags, car lots. Standard Argentina casein is currently offered at 21 cents per pound. No quotations on French casein.

CAUSTIC SODA — Prices on caustic soda are unchanged. Demand reported heavy for the week. Solid caustic soda is currently quoted at $2.30 per 100 pounds, flake and ground at $2.70 per 100 pounds, in drums, at works.

CHINA CLAY—Quotations on china clay are firm and continue unchanged this week. Domestic filler clay is currently quoted at from $7.50 to $15 per ton; coating clay at from $12 to $22 per ton, at mines. Imported clay is quoted at from $13 to $25 per long ton, ship side.

CHLORINE—Quotations on chlorine unchanged. Market under full priority control. Chlorine is currently quoted at $1.75 per 100 pounds, in single-unit tank cars, f.o.b., works.

ROSIN—Quotations on most grades of rosin are higher for the week. "G" gum rosin is currently quoted at $2.34 per 100 pounds, in barrels, Savannah. "FF" wood rosin is currently quoted at $2.34 per 100 pounds, in barrels, New York. Seventy per cent gum rosin size is quoted at $2.88 per 100 pounds, f.o.b., works.

SALT CAKE—Prices on salt cake are firm. Demand heavy, with current quotations nominal. Domestic salt cake is currently quoted at $15 per ton in bulk; chrome salt cake at $16 per ton. All prices in car lot, f.o.b., shipping point. The quotation of $16 per ton on imported salt cake continues nominal.

SODA ASH—Quotations on soda ash are firm and continue to conform to prevailing market quotations. Demand reported good. Quotations on soda ash in car lots, per 100 pounds, are as follows: in bulk, $.90; in paper bags, $1.05; and in barrels, $1.35.

STARCH—Prices on corn starch are firm and continue unchanged for the current week. Pearl is currently quoted at $3.10 per 100 pounds; powdered starch at $3.20 per 100 pounds; all prices in bags, car lots, f.o.b., Chicago.

SULPHATE OF ALUMINA—Quotations on sulphate of alumina are firm. Demand reported active for the current week. The commercial grades are currently quoted at $1.15 per 100 pounds; iron free at $1.80 per 100 pounds, in bags, car lots, f.o.b., works.

SULPHUR—Prices on sulphur are firm and continue to conform to prevailing market quotations. Annual contracts are currently quoted at $16 per long ton, f.o.b., mines. Spot and nearby car lots are quoted at $19 per ton.

TALC—Quotations on talc are firm and continue unchanged at prevailing market prices. Domestic talc is currently quoted at from $15 to $21 per ton, at mills. No quotations on imported talc.

MARKET QUOTATIONS

Paper

(Delivered New York)

News, per ton—			
Roll, contract	$50.00	@	—
Sheets	58.00	"	—
Kraft—per cwt.—Delivered Zone A			
Northern, Extra Quality	$5.25	@	$6.00
Superstandard	4.87½	"	5.25
Northern Standard Wrapping	4.50	"	5.00
Standard Wrapping	4.50	"	—
Tissues—Per Ream—Carlots			
White No. 1	.97½	"	—
White No. 1 M. G.	.95	"	—
White No. 1½	.80	"	—
White No. 2	.75	"	—
Anti-Tarnish M. G.	.80	"	—
Colored	.85	"	—
Kraft	.87½	"	—
Manila	.77½	"	—
Unbl. Toilet, 1 M.	3.75	"	—
Bleached Toilet	5.26	"	—
Paper Towels, Per Case—			
Unbleached, Jr.	2.10	"	—
Bleached, Jr.	3.60	"	—
Manila—per cwt.—C. l. f. a.			
No. 1 Jute	8.75	@	10.75
No. 1 Manila Wrapping, 35 lb.	5.50	"	5.75
No. 2 Manila Wrapping, 35 lb.	5.25	"	5.50
Boards, per ton—			
News	42.50	@	—
Chip	42.50	"	—
Sgl. Mla. Lt. Chip	57.50	"	—
White Pat. Coated	72.50	"	—
Kraft Liners	60.00	"	—
Binders Boards	80.00	"	—

The following are representative of distributors' resale prices:

Rag Content Bonds and Ledgers—White, Assorted Items, Delivered in Zone 1:

	Bonds		Ledgers	
100% Rag Ext. No. 1	$39.10 @	$46.00	$40.25 @	$47.25
100% Rag	31.05 "	36.50	32.20 "	37.75
85% Rag	.... "	....	29.90 "	35.00
75% Rag	23.60 "	27.75	24.75 "	29.00
65% Rag	.... "	....	21.65 "	26.25
50% Rag	17.55 "	21.50	18.70 "	22.75
25% Rag	14.65 "	17.75	15.80 "	19.25

Colors at $1.00 cwt. extra.

Sulphite Bonds and Ledgers—White, Assorted Items. Delivered in Zone 1:

	Bonds		Ledgers	
No. 1	$9.35 @	$11.50	$11.55 @	$12.75
No. 2	8.50 "	10.25	9.65 "	11.75
No. 3	8.05 "	9.25	9.20 "	11.25
No. 4	7.70 "	9.50	8.90 "	10.75

Colors $1.00 cwt. extra.

Free Sheet Book Papers—White, Cased Paper.

Delivered in Zone 1:

No. 1 Glossy Coated	$11.90	@	$13.50
No. 2 Glossy Coated	10.35	"	11.75
No. 3 Glossy Coated	9.55	"	11.00
No. 4 Glossy Coated	9.15	"	10.50
No. 1 Antique (watermarked)	9.05	"	10.50
No. 2 Offset	8.40	"	9.75
A Grade E. F.	8.20	"	9.50
A Grade S. & S. C.	8.45	"	9.75
B Grade E. F.	7.65	"	8.75
B Grade S. & S. C.	7.90	"	9.00
C Grade E. F.	7.35	"	8.50
C Grade S. & S. C.	7.60	"	8.75
D Grade E. F.	7.10	"	8.25
D Grade S. & S. C.	7.35	"	8.10

Ivory & India at $.50 cwt. extra.

Mechanical Pulp

(On Dock, Atlantic Ports)

No. 1 Imported—			
Moist	No prices		
Dry	No prices		
(Delivered)			
No. 1 Domestic and Canadian	40.00	@	42.00

Chemical Pulp

(On Dock, Atlantic, Gulf and West Coast Ports)

Bleached Sulphite (Domestic and Foreign)—			
Prime Bleached Sulphite	3.72½	@	3.87½
Prime Qualities—			
Easy-Bleaching Sulphite	3.17½	"	3.71
Strong Unbleached Sulphite	3.17½	"	3.71
News Grade, delivered			
Unbleached Sulphite	61.00	"	64.25
(On Dock, Atlantic Ports)			
Kraft Bleached	4.12½	"	—
Kraft Light & Strong	3.75	"	4.15
Kraft No. 1	3.60	"	4.00
(F. o. b. Pulp Mill)			
Kraft Domestic and Canadian	2.75	"	3.37½
(Delivered)			
Soda Bleached	3.30	"	—

Add 60 cents per short ton, dock charges for Albany; $2.50 for Lake Ports East and $3.50 for Lake Ports West of Mackinac Straits.

Domestic Rags

New Rags

(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—			
New White, No. 1	6.75	@	7.00
Silesias No. 1	4.25	"	4.50
New Unbleached	6.50	"	6.75
Blue Overall	4.75	"	5.00
Fancy	2.25	"	2.50
Washables	2.00	"	2.15
Mixed Khaki Cuttings	2.50	"	2.75
O. D. Khaki Cuttings	3.00	"	3.15

Old Rags

White, No. 1—			
Repacked	3.10	"	3.35
Miscellaneous	2.35	"	2.65
White, No. 2—			
Repacked	2.50	"	2.75
Miscellaneous	2.00	"	2.25
Thirds and Blues—			
Repacked	1.25	"	1.35
Miscellaneous	1.10	"	1.25
Roofing Rags—			
No. 1	1.30	"	1.35
No. 2	1.20	"	1.25
No. 3 (bagging)	.95	"	1.00
No. 4	.90	"	.95
No. 5A	.90	"	.95

Foreign Rags

All prices nominal.

New Rags

New Dark Cuttings	2.25	@	2.40
New Mixed Cuttings	2.00	"	2.20
New Light Silesias	5.50	"	5.75
Light Flannelettes	5.50	"	5.75
New White Cuttings	7.00	"	7.50
New Light Oxfords	4.00	"	4.50
New Light Prints	3.00	"	3.25

Old Rags

No. 1 White Linens	7.50	"	8.50
No. 2 White Linens	6.50	"	7.50
No. 3 White Linens	4.50	"	—

A Precious Cargo—Eyes for Defense

Here is a Range Finder, another Bausch & Lomb contribution to defense, on the way to serve as eyes for the Navy. The packing case, weighing tons, is built like a skyscraper to insure safe delivery.

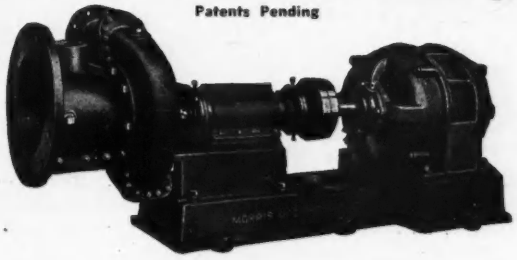
AN AMERICAN SCIENTIFIC INSTITUTION PRODUCING OPTICAL GLASS AND INSTRUMENTS FOR NATIONAL DEFENSE, EDUCATION RESEARCH INDUSTRY AND EYESIGHT CORRECTION.

BAUSCH & LOMB
OPTICAL CO. • ROCHESTER, NEW YORK
ESTABLISHED 1853

MORRIS

ST-P Stock Pump

Patents Pending



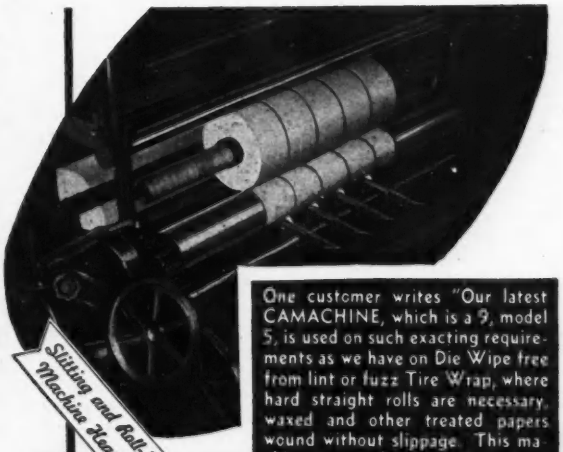
- **Guaranteed Non-Clogging.**
- **Has successfully handled 8¼% pulp.**
- **Delivers heavy stock at uniform rate without dehydrating.**
- **Handles raw waste stock without wedging of foreign matter between impeller and casing.**
- **Capacity remains closely constant with varying heads.**

Write for Bulletin

Morris Machine Works . . . . Baldwinsville, N. Y.

THEY'RE DOUBLE-TEMPERED
● SWW beater bars stand up. The record shows that. And one of the reasons is double-tempering. Specify the standard or special type you need—watch how SWW's help to keep conversion costs in line.
Simonds Worden White Co., Dayton, O.
S.W.W.
BEATER BARS

A slitter for exacting requirements



Slitting and Roll-Winding Machine Headquarters

One customer writes "Our latest CAMACHINE, which is a 9, model 5, is used on such exacting requirements as we have on Die Wipe free from lint or fuzz Tire Wrap, where hard straight rolls are necessary, waxed and other treated papers wound without slippage. This machine meets the demands and, of course, the maintenance is very low." Send for interesting folder.

CAMERON MACHINE COMPANY
61 Poplar St. BROOKLYN, N.Y.

No. 4 White Linens.	2.25	@	3.25
No. 1 White Cotton.	4.25	"	4.75
No. 2 White Cotton.	3.25	"	3.75
No. 3 White Cotton.	2.50	"	3.00
No. 4 White Cotton.	1.90	"	2.20
Extra Light Prints..	2.00	"	2.40
Ord. Light Prints...	1.75	"	2.15
Med. Light Prints...	1.55	"	1.95
Dutch Blue Cottons.	2.25	"	2.50
French Blue Linens.	3.00	"	—
Checks and Blues...	2.00	"	—
Linsey Garments....	1.90	"	2.00
Dark Cottons.....	1.50	"	1.60
Old Shopperies.....	1.30	"	1.45
New Shopperies.....	1.45	"	1.50
French Blues.....	2.25	"	2.50

Old Rope and Bagging

(Prices to Mill, f. o. b. N. Y.)

Gunny No. 1—			
Foreign	Nominal		
Domestic	4.15	@	4.25
Wool Tares, light....	2.50	"	2.75
Wool Tares, heavy..	2.50	"	2.75
Bright Bagging.....	3.15	"	3.30
Manila Rope—			
Foreign	6.00	"	6.25
Domestic	6.00	"	6.25
Jute Threads.....	3.50	"	3.75
Sisal Strings	2.10	"	2.35
Mixed Strings.....	1.10	"	1.20

Old Waste Papers

(F. o. b. New York)

Shavings—			
White Envelope Cuttings	3.25	@	3.50
Ordinary Hard White No. 1....	2.75	"	3.00
Soft White No. 1..	2.35	"	2.50
Soft White Extra..	2.70	"	2.85
Flat Stock—			
Stitchless	1.10	"	1.25
Overissue Mag.....	.90	"	1.00
Solid Flat Book....	.90	"	.95
Crumbled No. 1...	.70	"	.75
Ledger White Stock.	2.10	"	2.15
Ledger Stock Colored	1.75	"	1.90
Manila—			
New Env. Cut....	3.25	"	3.50
New Cuttings.....	3.00	"	3.25
Old Kraft Machine Compressed bales..	1.65	"	1.75
News—			
No. 1 White News	1.50	"	1.60
Strictly Overissue.	.75	"	.80
Strictly Folded....	.65	"	—
Corrugated	.87½	"	—
No. 1 Mixed Paper..	.57½	"	—

Twines

(F. o. b. Mill)

(Soft Fiber)			
Coarse Polished—			
India	.20	@	—
White Hemp.....	.20	"	—
Fine Polished—			
Fine India.....	.24	"	—
Unpolished—			
Box	.16¾	"	—
Paper Makers.....	.16	"	—
Tube Rope.....	.17½	"	—
Wall Paper.....	.19½	"	—
Wrapping	.21	"	—
Soft Fiber Rope...	.18	"	—
Cotton	.24	"	—
(Hard Fiber)			
Medium Java.....	.15	"	—
Mex. Sisal.....	.14	"	—
Manila	.26	"	—

PHILADELPHIA

Domestic Rags (New)

(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White No. 1.	.06¾	@	.07
New White No. 2.	.04	"	.04¼
Light Silesias.....	.04½	"	.04¾
Silesias, No. 1....	.04	"	.04¼
Black Silesias, soft			.03
New Unbleached...	.06½	"	.06¾
Washable Prints..	.02½	"	.03
Washable No. 1..	—	"	.01½
Blue Overall.....	.04	"	.04½
Cottons—According to grades—			
Washable shredding	—	"	.01¾
Fancy Percales....	.03	"	.03¼
New Black Soft...	.02½	"	.02¾
New Light Seconds	—	"	.04
New Dark Seconds	—	"	1.50
Khaki Cuttings—			
No. 1 O. D.....	.03	"	.03¼
No. 2 Mixed.....	.02	"	.02¼
Corduroy	.01¼	"	.01½
New Canvas.....	.04½	"	.05
New Black Mixed.	—	"	.02¼

Domestic Rags (Old)

White No. 1—			
Repacked	3.00	@	3.50
Miscellaneous	2.75	"	3.00
Thirds and Blues—			
Miscellaneous	1.35	"	1.50
Repacked	1.55	"	1.65
Black Stockings (Export)	Nominal		
Roofing Stock—			
Foreign No. 1....	Nominal		
Domestic No. 1....	1.35	"	1.40
Domestic No. 2...	1.15	"	1.20
Roofing Bagging..	1.05	"	1.10

Bagging

(F. o. b. Phila.)

Gunny, No. 1—			
Foreign	3.25	@	3.75
Domestic	3.50	"	3.75
Manila Rope.....	—	"	5.50
Sisal Rope.....	2.00	"	2.25
Mixed Rope.....	.75	"	1.00
Scrap—			
No. 1.....	3.25	"	3.50
No. 2.....	—	"	1.50
Wool Tares, heavy...	4.00	"	4.25
No. 1 New Light Burlap	3.00	"	4.00
New Burlap Cuttings	3.25	"	3.50

Old Papers

(F. o. b. Phila.)

Shavings—			
Hard White Special	3.15	@	3.20
Hard White.....	2.85	"	2.90
No. 1 Soft White..	2.25	"	2.30
No. 2 White.....	1.85	"	1.90
No. 1 Mixed.....	1.20	"	1.25
Solid Ledger Stock..	1.90	"	2.00
Ledger Stock, white.	1.75	"	1.80
Ledger Stock, colored	1.30	"	1.40
No. 1 Books, heavy..	1.25	"	1.30
Manila Cuttings.....	2.00	"	2.25
Print Manila	.65	"	.70
Container Manila....	.60	"	.65
Kraft Paper.....	1.45	"	1.50
No. 1 Mixed Paper..	.57½	"	—
Straw Board Chip...	.50	"	—
Binders Board Chip..	.50	"	—
Corrugated Board....	.80	"	—
Overissue News.....	.85	"	.90
Old Newspapers.....	.65	"	—

BOSTON

Old Papers

(F. o. b. Boston)

Shavings—			
No. 1 Hard White	3.15	@	3.25
No. 1 Soft White	2.50	"	2.75
No. 2 Mixed.....	.90	"	1.00
Solid Ledger Books..	2.00	"	2.10
Overissue Ledger Stock	1.75	"	2.00
White Ledger Stocks	1.50	"	1.65
Mixed Ledgers	1.25	"	—
No. 1 Heavy Books	1.10	"	1.20
No. 1 Books, Light..	.75	"	.85
Crumpled Stitchless Book Stock.....	1.15	"	1.20
Manila Env. Cuttings	3.00	"	3.25
Manila Envelope Cuttings, extra quality	2.75	"	3.00
White Blank News..	1.70	"	1.80
No. 1 Kraft.....	1.35	"	1.45
Extra No. 1 Kraft..	1.75	"	—
Mixed Papers.....	.57½	"	—
Print Manila.....	.70	"	—
Container Manila....	.65	"	.75
Old Newspapers.....	.65	"	—
Paper Wool Strings.	1.30	"	1.35
Overissue News.....	.65	"	.70
Box Board Chips.....	.35	"	—
Corrugated boxes....	.80	"	.85
Kraft corrugated boxes	1.40	"	1.50
New Kraft Corrugated Cuttings	1.90	"	2.00
Screening Wrappers.	.85	"	.90

Bagging

(F. o. b. Boston)

Gunny Bagging—			
Foreign	(nominal)		
Domestic	4.50	@	4.60
Sisal Rope.....	3.00	"	3.25
Mixed Rope.....	1.00	"	1.25
Transmission Rope—			
Foreign	(nominal)		
Domestic	2.75	"	3.00
Soft Jute Rope.....	4.75	"	5.00
Manila Rope—			
Foreign .....(nominal)			
Domestic	6.00	"	6.25
Jute Carpet Threads.	3.00	"	3.25
Bleachery Burlap....	6.00	"	6.25
Scrap Burlap—			
Foreign	(nominal)		
Domestic	3.25	"	3.75
Scrap Sisal.....	3.25	"	3.50
Scrap Sisal for Shredding	3.25	"	3.50
Wool Tares—			
Foreign	(nominal)		
Domestic	4.00	"	4.25
Aust. Wool Pouches.	4.25	"	4.60
New Burlap Cuttings	4.50	"	5.00
Heavy baling bagging	3.50	"	4.00
Paper Mill Bagging..	3.50	"	3.75
No. 2 Bagging.....	.60	"	.75

Domestic Rags (New)

(F. o. b. Boston)

Shirt Cuttings—			
New Light Prints.	—	@	.03
Fancy Percales....	.03¾	"	4.00
New White No. 1.	.06¼	"	.06½
New Light Flannelettes	.04¼	"	.04½
Canton Flannel, Bleached	.06¾	"	.07
Underwear Cutters, Bleached	.06¾	"	7.00
Silesias No. 1.....	.04¼	"	.04½
New Black Silesias..	4.00	"	—
Red Cotton Cuttings	.04	"	.05
Soft Unbleached.....	.06½	"	.06¾
Blue Cheviots.....	.04½	"	.04¾
Fancy	.01¾	"	.02
Washable	.01¾	"	—
Cottons—According to Grades—			
Blue Overalls.....	.04¼	"	.04½
New Black, Soft..	.03	"	.03¼
Khaki Cuttings.....	.02¼	"	.02½
O. D. Khaki.....	.02½	"	.03¼
Corduroy	.02	"	.02¼
New Canvas.....	.05½	"	—
B. V. D. Cuttings...	.06¼	"	.07

Domestic Rags (Old)

(F. o. b. Boston)

White No. 1—			
Repacked	2.75	@	3.00
Miscellaneous	2.00	"	2.25
White No. 2—			
Repacked	1.90	"	2.00
Miscellaneous	2.00	"	2.25
Twos and Blues.....	1.75	"	2.00
Old Blue Overalls...	1.60	"	2.00
Thirds and Blues....	1.50	"	—
Miscellaneous	1.25	"	1.35
Black Stockings.....	3.50	"	4.00
Roofing Stock—			
No. 1.....	1.20	"	1.25
No. 2.....	.95	"	1.00
No. 3.....	.85	"	.95

Foreign Rags

(F. o. b. Boston)

Canvas .....(nominal)	
Dark Cottons.....(nominal)	
Dutch Blues.....(nominal)	
New Checks and Blues(nominal)	
Old Fustians.....(nominal)	
Old Linsey Garments.(nominal)	
New Silesias.....(nominal)	

CHICAGO

Waste Paper

(F. o. b. Chicago)

Shavings—			
No. 1 White Envelope Cuttings....	3.00	@	—
No. 1 Hard White	2.50	"	2.65
No. 1 Soft White.	2.60	"	2.20
Ledger and Writings	1.30	"	1.45
Solid Books	1.10	"	1.15
Blanks	1.50	"	1.55
Krafts	2.20	@	2.30
New Kraft Cuts....	2.40	"	2.50
Overissue News.....	.75	"	.85
Old Newspapers—			
No. 1 Folded News	.70	"	.75
No. 1 Mixed Paper	.60	"	.65
Roofing Stocks—			
No. 1.....	.95	"	1.00
No. 2.....	.85	"	.90

Value of Paper Exports Rise

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., Aug. 4, 1941—Exports of paper from the United States during the first 3 months of 1941 were valued at $16,239,513 an increase of nearly $2,000,000 over the corresponding period in 1940. This increase, however, was due to a higher level of unit value for most products rather than an increase in the volume of shipments. The latter for most items show a decrease or a very slight increase compared with the corresponding quarter in 1940. Exceptions are newsprint paper, which increased approximately 10,000 tons or 130 per cent; greaseproof paper, which rose by 74 per cent; and kraft wrapping paper which rose 41 per cent. Small increases were also registered in shipments of surface-coated papers, tissue papers, miscellaneous paperboards, paper towels and napkins, envelopes, and filing folders and office forms. Shipments of overissue newspapers, an important item in the paper export schedule, dropped off by 5,400 tons, or 17 per cent, and kraft container board by 19,196 tons or 59 per cent.

Eliminating a few items for which tonnage figures are not recorded and which represent only 13 per cent of the total value of paper exports, we find that shipments during March, 1941, totaled only 48,902 tons, a decrease of 3 per cent under March, 1940, and that the 3 months shipments for the current year totaled only 135,396 tons, a decrease of 3.5 per cent compared with the first 3 months of 1940. In both instances, however, they were more than double shipments for the corresponding period in 1939.